

NOTICE INVITING TENDER (NIT)

FOR

SUPPLY

OF

**66KV XLPE INSULATED ALUMINIUM CONDUCTOR POWER
CABLE OF SIZES 1CX1000 & 1CX630 MM²**

NIT NO: CMC/BY/22-23/RS/SkS/SV/71

Due Date for Submission: 23.03.2023, 14:00 HRS

**BSES YAMUNA POWER LIMITED (BYPL)
CONTRACTS & MATERIALS DEPT.,
SHAKTI KIRAN BUILDING, KARKARDOOMA,
DELHI-110032
CIN: U40109DL2001PLC111525
WEBSITE: www.bsedelhi.com**

This document is a property of BYPL. This document is meant for the exclusive purpose of bidding against this NIT Number /Specification and shall not be transferred, reproduced, or otherwise used for purposes other than that for which it is specifically issued.

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VOLUME – I: INFORMATION TO BIDDER (ITB)

BIDDERS

SECTION – I: REQUEST FOR QUOTATION

1.00 EVENT INFORMATION

- 1.01 BSES Yamuna Power Ltd (hereinafter referred to as "BYPL") invites sealed tenders in two envelopes from a reputed manufacturer

	Tender Description	Estimated Cost (₹)	Cost of EMD (₹)	Delivery at
1	SUPPLY OF 66KV XLPE INSULATED ALUMINIUM CONDUCTOR POWER CABLE OF SIZES 1CX1000 & 1CX630 MM ²	5.30 Crore	5.30 Lakh	Delhi Store(s)/ Site(s)

The bidder must qualify the requirements as specified in clause 2.0 stated below.

All envelopes shall be duly superscribed "**BID FOR SUPPLY OF 66KV XLPE INSULATED ALUMINIUM CONDUCTOR POWER CABLE OF SIZES 1CX1000 & 1CX630 MM²**" "NIT NO: **CMC/BY/22-23/RS/SkS/SV/71 DUE ON 23.03.2023, 14:00 Hr.**"

The Bid shall be submitted in two (02) parts. Details of the part are as follows

Part A – Techno Commercial Bid

Part B – Price Bid

- 1.1. The tender document can be obtained from the address given below against submission of a non-refundable demand draft of ₹ **1,180/-** drawn in favour of BSES Yamuna Power Ltd, payable at Delhi or Online transfer of the requisite amount through IMPS/ NEFT/ RTGS. The tender document is also available for download from the website www.bsesdelhi.com --> **BSES YAMUNA POWER LTD --> Tender --> Open Tenders**

In case the tender is downloaded from the above website, then the bidder has to enclose a demand draft or online transfer of the requisite amount through IMPS/ NEFT/ RTGS covering the cost of bid documents.

- 1.2. Bids will be received up to **23.03.2023, 14:00 Hr.** at the address given below.
Part A of the Bid shall be opened on **24.03.2023, 11:30 Hr.**

Part B of the Bid will be opened in case of Techno-Commercially Qualified Bidders and the date of opening of same shall be intimated in due course. It is the sole responsibility of the bidder to ensure that the bid documents reach this office on or before the last date.

**Head of Department
Contracts & Materials Deptt.
BSES Yamuna Power Ltd
Reception, Ground Floor
Shaktikiran Building, Karkardooma
Delhi 110032**

- 1.3 BSES Yamuna Power Ltd reserves the right to accept/reject any or all tenders without assigning any reason thereof in the event of the following:
- Tender is received after the due date and time.
 - Tender fee of requisite value is not submitted.

- c) Earnest Money Deposit (EMD) of requisite value & validity is not submitted in the shape of a Bank Guarantee drawn in favour of BSES Yamuna Power Ltd, payable at Delhi or Online transfer of requisite amount through IMPS/NEFT/RTGS.
- d) Price Bid as per the Price Schedule mentioned in Annexure-I.
- e) Incomplete Bids.
- f) Necessary documents against compliance to Qualification Requirements mentioned in Section 1 Clause 2.0 of this Tender Document.
- g) Complete Technical details are not enclosed as per the Technical Bid Submission Checklist.
- h) Filled in Schedule of Deviations as per Annexure.

2.00 QUALIFICATION CRITERIA

The prospective bidder must qualify for all of the following requirements and shall be eligible to participate in the bidding who meets the following requirements and management has a right to disqualify those bidders who do not meet these requirements.

2.01 Technical Criteria:

SI No.	Criteria	Documents to be submitted by the bidder
1	The bidder should have own manufacturing facility for 66KV or higher voltage grade Power Cable for the last 3 years.	Manufacturing and factory incorporation certificate / Undertaking The details of manufacturing units, locations, and works from where supply against this tender shall be proposed to be furnished.
2	The bidder must have a Dry cure and Dry cooling CCV/VCV line for manufacturing 66kv and above voltage grade cables.	Undertaking
3	The bidder should have supplied at least 25km of cable size 66KV 1C X 1000 / 1C X 630 sqmm or higher voltage or higher size & rating in the last 5 years to any utilities/ SEB's/ PSU's/ reputed companies wherein the end-user shall be utilities/ SEB's/ PSU's.	i. Summary list of executed Purchase orders ii. Purchase order copies iii. Material delivery clearance certificate copy or Delivery completion certificates or Invoice Copies
4	Performance certificate for minimum 2-year satisfactory performance for cable size 66KV 1C X 1000 / 1C X 630 sqmm or higher voltage or higher size & rating supplied in last 7 years from the date of bid opening from at least two utilities/ SEB's/ PSU's/ reputed companies wherein the end-user shall be utilities/ SEB's/ PSU's. In case of bidder has a previous association with BRPL/BYPL for a similar product and service, the performance feedback for that bidder by BRPL/BYPL shall only be considered irrespective of the	Performance certificates

	performance certificate issued by any third organization.	
5	The bidder should have a manufacturing capacity of a minimum 15 km per month.	Installed Capacity Certificate
6	The Bidder must possess valid ISO 9001:2015 certification and BIS Licence.	Valid copy of Certification

2.02 Commercial Criteria:

SI No.	Criteria	Documents to be submitted by the bidder
7	Bidder should have an Average Annual Sales Turnover of Rs 300 Crores or more in the last three (3) Financial Years (i.e., FY 2019-20, 2020-21 & 2021-22).	Balance Sheet / Duly certified CA certificate to be submitted
8	The Bidder shall submit an undertaking that "No Litigation" is pending with the BYPL or its Group/Associates Companies as on the date of bid opening.	Self Undertaking
9	An undertaking (self-certificate) that the bidder has not been blacklisted/debarred by any central/state government institution/Electricity utilities as on the date of bid opening.	Self Undertaking
10	The bidder must have a valid PAN No. and GST Registration Number, in addition to other statutory compliances. The bidder must submit a copy of registrations and submit an undertaking that the bidder shall comply with all the statutory compliances as per the laws/rules etc. before the start of the supply/work.	Relevant Statutory Documents Copy/ Self Undertaking

Notwithstanding anything stated above, BYPL reserves the right to assess the bidder's capability to perform the contract, and assess the capability and installed capacity of the Bidder for carrying out the supplies, should the circumstances warrant such assessment in the overall interest of the purchaser. In this regard, the decision of the purchaser is final.

3.00 BIDDING AND AWARD PROCESS

Bidders are requested to submit their offer strictly in line with this tender document. Normally, the deviations to tender terms are not admissible and the bids with deviations are liable for rejection. Hence, the bidders are advised to refrain from taking any deviations on this Tender. Still, in case of any deviations, all such deviations shall be set out by the Bidders, clause by clause in the "Annexure - Schedule of Deviations" and the same shall be submitted as a part of the Technical Bid.

3.01 BID SUBMISSION

Please mention our NIT Number: - on the Tender and drop the same in our Tender Box placed at:

BSES Yamuna Power Ltd, Reception, Ground Floor, Shaktikiran Building, Karkardooma, Delhi 110032

**The bids and the outer envelope shall be addressed to:
Head of Department
Contracts & Materials Deptt.**

BSES Yamuna Power Ltd, Shaktikiran Building, Karkardooma, Delhi 110032

Kindly Note:

- Bidder will inform BYPL through e-mail immediately after their bid submission or before the due date & time of submission to TPC & Buyer:
 1. Mr Rakesh Sharma, E-mail: Rakesh.Ku.Sharma@relianceada.com,
 2. Mr Sumit Verma, E-mail: sumit.ra.verma@@relianceada.com,
- Tender documents shall be submitted at the main gate in the tender box.
- Authorized person of TPC will collect the documents from the tender box after the scheduled time of tender submission and verify the bid documents with emails received. A confirmation of receipt shall be sent to the bidder through e-mail by TPC on the same day.
- Bidder has to ensure that tender copy is dropped in the correct box designated for tender submission only.
- BYPL shall not be responsible for any wrong placement of tender documents by the bidder.

PART A :: TECHNICAL BID comprising (01 no Original + 01 no Duplicate soft copy) of the following:

Sr. No	Descriptions	Type of Documents
Commercial :		
1	Tender Fee - Demand Draft (Rs.1180/-) (Incl GST)	Non-refundable demand draft for Rs 1180/- in case the forms are downloaded from the website
2	EMD	In the prescribed stamp paper & format
3	Power-of-Attorney	In the prescribed stamp paper & format
4	PQR Compliances	Documentary evidence in support of qualifying criteria like: 1. Details of the constitution of the company (Proprietary/Limited/etc along with the details), Memorandum of Association of the company 2. Bidders shall submit the certified annual Balance sheets for the last completed three (3) financial years 3. Supportive document on Positive Net worth. Credit rating/solvency certificate from the competent authority, wherever required. 4. Copies of Orders, Execution /Performance Certificates & Other Documents to support qualification Criteria.
5	Signed Tender document	Original Tender documents duly stamped & signed on each page as a token of acceptance
6	Black listing undertaking	Bidder should submit a Self-undertaking signed by its Authorized Signatories that the Bidder or any of their sub-contractor has not been blacklisted/barred by any Govt. Organization or Regulatory Agencies in India or abroad.
7	Commercial Terms and Conditions	Acceptance on Commercial Terms and Conditions viz Delivery schedule/period, Payment terms, PBG etc.
8	Acceptance on Reverse Auction	Duly signed Acceptance Form For Participation In Reverse Auction Event as per attached format

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Bidders seal & Signature

Sr. No	Descriptions	Type of Documents
9	Bid Form (Unpriced) Duly Signed	Duly Signed Bid Form as per attached format
10	Un price Bid Duly Signed	Duly Signed Un price Bid as per attached format
Technical:		
11	Technical Details/ Filled in GTP/Drawings	Bidder shall submit duly filled GTP with all Technical documents and Drawings.
12	Type Test Reports	Bidders shall submit a copy of type test reports in their technical bids in support of technical specifications
13	Testing Facilities	Bidder shall submit the details of testing facilities available at their works/factory.
14	Organization Chart & Manpower Details.	Bidder shall submit the details of Organization & Manpower with qualification and experience.

- PART B** :: **FINANCIAL BID** comprising of (01 no original only)
- Price strictly in the Format enclosed indicating Break up of basic price, taxes & duties, etc.

3.02 TIME SCHEDULE

The bidders should complete the following within the dates specified as under:

S. No.	Events	Due date & Time
1	Date of sale/ availability of tender documents from BYPL Website	Up to 23.03.2023, 14:00 Hours
2	Date & Time of Pre-Bid Meeting Pre-Bid Meeting will be done online, Register in advance for this meeting via, the Zoom Meeting link: https://zoom.us/meeting/register/tJAKduCoqzouHdxcc9fAF1gQJfoRpkT_DrxG After registering, you will receive a confirmation email containing information about joining the meeting.	09.03.2023, 10:30 Hours
3	Last Date of receipt of pre-bid queries, if any (Queries to be submitted via e-mail)	12.03.2023 up to 17:00 Hours
4	Last Date of replies to all the pre-bid queries as received	15.03.2023 up to 18:00 Hours
5	Last date and time of receipt of Complete Bids (Tender Fees, EMD, Part A & Part B)	23.03.2023, 14:00HRS
6	Date & Time of Opening of PART A – EMD and Technical Bid	24.03.2023, 11:30HRS
7	Date & Time of opening of Price/RA of qualified bids	Will be notified to the qualified bidders through our website or e-mail

Note:- In the event of the last date specified for submission of bids and the date of opening of bids is declared as a closed holiday for the BSES office, the last date of submission of bids and date of opening of bids will be the following working day at the appointed times.

This is a two-part bid process. Bidders are to submit the bids in 2(Two) parts

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Both these parts should be furnished in separate sealed covers super scribing NIT no. DUE DATE OF SUBMISSION, with particulars as **PART-A TECHNICAL BID & COMMERCIAL TERMS & CONDITIONS** and **Part-B FINANCIAL BID** and these sealed envelopes, should again be placed in another sealed cover which shall be submitted before the due date & time specified.

Part – A:: Technical Bid should not contain any cost information whatsoever and shall be submitted within the due date.

PART B:: This envelope will be opened internally after techno-commercial evaluation and only of the qualified bidders.

The Bidder has to submit the item-wise price bifurcation in the bid. An unpriced copy must be attached with the Part A (Technical Bid). Reverse Auction will be carried out on individual item-wise rates.

REVERSE AUCTION CLAUSE:: Purchaser reserves the right to use the reverse auction as an optional tool through SAP – SRM as an integral part of the entire tendering process. All techno-commercially qualified bidders shall participate in the reverse auction.

Notwithstanding anything stated above, the Purchaser reserves the right to assess the bidder's capability to perform the contract, should the circumstances warrant such assessment in the overall interest of the purchaser. In this regard the decision of the purchaser is final. Bidder is to submit their acceptance as per the format attached ANNEXURE-C.

BIDS RECEIVED AFTER THE DUE DATE AND TIME MAY BE LIABLE FOR REJECTION

4.00 AWARD DECISION

- 4.01 Purchaser intends to award the business on the lowest bid basis, so suppliers are encouraged to submit the bid competitively. The decision to place a purchase order/LOI solely depends on the purchaser on the cost competitiveness across multiple lots, quality, delivery and bidder's capacity, in addition to other factors that Purchaser may deem relevant.
- 4.02 In the event of your bid being selected by the purchaser (and/or its affiliates) and you subsequent DEFAULT on your bid; you will be required to pay the purchaser (and/or its affiliates) an amount equal to the difference in your bid and the next lowest bid on the quantity declared in NIT/RFQ.
- 4.03 In case any supplier is found unsatisfactory during the delivery process, the award may be cancelled and BYPL reserves the right to award other suppliers who are found fit.
- 4.04 Rate shall remain FIRM till the validity of the Contract.
- 4.05 Quantity Variation: The purchaser reserves the rights to vary the quantity by (\pm) 30% of the tender quantity during the execution of the rate contract.
- 4.06 Quantity Splitting: The purchaser reserves the right to distribute the procurable quantity on one or more than one of the eligible tenders. If the quantity is to be split, quantity distribution shall be in the manner detailed below:
 - a) If the quantity is to be split among 2 bidders, it will be done in the ratio of 70:30 on L1 price.
 - b) If the quantity is to be split among 3 bidders, it will be done in the ratio of 50:30:20 on L1 price.Note: In case quantity needs to be distributed and order splitting is required, distribution of quantity shall be maximum among three (3) bidders.

5.00 MARKET INTEGRITY

We have a fair and competitive marketplace. The rules for bidders are outlined in the Terms & Conditions. Bidders must agree to these rules before participating. In addition to other remedies available, we reserve the right to exclude a bidder from participating in future markets due to the bidder's violation of any of the rules or obligations contained in the Terms & Conditions. Bidders who violate the marketplace rules or engage in behaviour that disrupts the fair execution of the marketplace restrict a bidder to the length of time, depending upon the seriousness of the violation. Examples of violations include, but are not limited to:

- Failure to honour prices submitted to the marketplace.
- Breach of the terms of the published in Request for Quotation/NIT.

6.00 SUPPLIER CONFIDENTIALITY

All information contained in this RFQ is confidential and shall not be disclosed, published or advertised in any manner without written authorization from BYPL. This includes all bidding information submitted.

All RFQ documents remain the property of BYPL and all suppliers are required to return these documents to BYPL upon request.

Suppliers who do not honour these confidentiality provisions will be excluded from participating in future bidding events.

7.00 CONTACT INFORMATION

Technical clarification, if any, as regards this RFQ shall be sought in writing and sent by e-mail/post/courier to the following addresses. The same shall not be communicated through phone

Address	Name/ Designation	E-mail Address
Technical		
CES Dept. 3 rd Floor, B-Block, BSES Yamuna Power Ltd Shaktikiran Building, Karkardooma, Delhi 110032	Abhishek Vashistha DGM (CES)	abhishek.vashistha@relianceada.com
	Puneet Duggal GM (CES)	puneet.duggal@relianceada.com
	Gaurav Sharma Addl. VP (HOD-CES)	gaurav.a.sharma@relianceada.com
Commercial		
C&M Dept. 3 rd Floor, A-Block, BSES Yamuna Power Ltd Shaktikiran Building, Karkardooma, Delhi 110032	Sumit Verma GM (C&M)	sumit.ra.verma@relianceada.com
	Santosh Singh Addl. VP (Head-Procurement)	santosh.kum.singh@relianceada.com
	Robin Sebastian VP (HOD-C&M)	robin.sebastian@relianceada.com

SECTION – II: INSTRUCTION TO BIDDERS

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A. GENERAL

1.00 BSES Yamuna Power Ltd, hereinafter referred to as "The Purchaser" is desirous of implementing the various Systems Improvement/Repair & Maintenance works at their respective licensed area in Delhi The Purchaser has now floated this tender for procurement of material notified earlier in this bid document.

2.00 SCOPE OF WORK

The scope shall include Design, Manufacture, testing at works conforming to the Technical Specifications/IS along with Packing, Forwarding, Transportation and Unloading and proper stacking at Purchaser's stores/site.

3.0 DISCLAIMER

3.01 This Document includes statements, which reflect various assumptions, which may or may not be correct. Each Bidder/Bidding Consortium should conduct its estimation and analysis and should check the accuracy, reliability and completeness of the information in this Document and obtain independent advice from appropriate sources in their interest.

3.02 Neither Purchaser nor its employees will have any liability whatsoever to any Bidder or any other person under the law or contract, the principles of restitution or unjust enrichment or otherwise for any loss, expense or damage whatsoever which may arise from or be incurred or suffered in connection with anything contained in this document, any matter deemed to form part of this Document, provision of Services and any other information supplied by or on behalf of Purchaser or its employees, or otherwise arising in any way from the selection process for the Supply.

3.03 Though adequate care has been taken while issuing the Bid document, the Bidder should satisfy itself that the Documents are complete in all respects. Intimation of any discrepancy shall be given to this office immediately.

3.04 This Document and the information contained herein are Strictly Confidential and are for the use of only the person(s) to whom it is issued. It may not be copied or distributed by the recipient to third parties (other than in confidence to the recipient's professional advisors).

4 COST OF BIDDING

The Bidder shall bear all costs associated with the preparation and submission of its Bid and the Purchaser will in no case be responsible or liable for those costs.

B. BIDDING DOCUMENTS

5.01 The Scope of Work, Bidding Procedures and Contract Terms are described in the Bidding Documents. In addition to the covering letter accompanying Bidding Documents, the Bidding Documents include:

- (a) Request for Quotation (RFQ)
- (b) Instructions to Bidders
- (c) General Terms & Conditions of Contract (T&C)
- (d) Delivery Schedule
- (e) Price Formats & Summary T&C
- (f) Bid Form
- (g) Acceptance Format – RA
- (h) EMD BG Format

- (i) Vendor code of conduct
- (j) Appendix
- (k) Technical Specifications (TS)

5.02 The Bidder is expected to examine the Bidding Documents, including all Instructions, Forms, Terms and Specifications. Failure to furnish all information required by the Bidding Documents or submission of a Bid not substantially responsive to the Bidding Documents in every respect may result in the rejection of the Bid.

6.0 AMENDMENT OF BIDDING DOCUMENTS

6.01 At any time before the deadline for submission of Bids, the Purchaser may for any reason, whether at its initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by Amendment.

6.02 The Amendment shall be part of the Bidding Documents, pursuant to Clause 5.01, and it will be notified on web site www.bsedelhi.com and the same will be binding on them.

6.03 To afford prospective Bidders reasonable time in which to take the Amendment into account in preparing their Bids, the Purchaser may, at its discretion, extend the deadline for the submission of Bids. The same shall be published as a corrigendum on the website www.bsedelhi.com

6.04 Purchaser shall reserve the rights to the following:

- a) extend the due date of submission,
- b) modify the tender document in part/whole,
- c) cancel the entire tender

6.05 **Bidders are requested to visit the website regularly for any modification/clarification/corrigendum/addendum of the bid documents.**

C. PREPARATION OF BIDS

7.0 LANGUAGE OF BID

The Bid prepared by the Bidder, and all correspondence and documents relating to the Bid exchanged by the Bidder and the Purchaser, shall be written in the English Language. Any printed literature furnished by the Bidder may be written in another language, provided that this literature is accompanied by an English translation, in which case, for purposes of interpretation of the Bid, the English translation shall govern.

8.0 DOCUMENTS COMPRISING THE BID

The Bid prepared and submitted by the Bidder shall comprise the following components:

- (a) Bid Form, Price & other Schedules (STRICTLY AS PER FORMAT) and Technical Data Sheets completed in accordance with Technical Specification.
- (b) All the Bids must be accompanied by the required EMD as mentioned in Section-I against each tender.
- (c) Tender documents duly stamped and signed on each page by an authorized signatory.

9.0 BID FORM

9.01 The Bidder shall submit Bid Form and the appropriate Price Schedules and Technical Data Sheets duly filled in as per the attached specification enclosed with the Bidding Documents.

Unpriced "Copy" of the Bid Form and the appropriate Un Price Schedules duly filled in as per the attached format enclosed with the Bidding Documents with TECHNICAL BID Part A.

9.02 **EMD**

Pursuant to Clause 8.0(b) above, the bidder shall furnish, as part of its bid, an EMD amounting to as specified in Section-I. The EMD is required to protect the Purchaser against the risk of Bidder's conduct which would warrant forfeiture.

The EMD shall be denominated in any of the following forms:

- (a) Bank Guarantee drawn in favour of BSES Yamuna Power Ltd, payable at Delhi or
- (b) Online transfer of requisite amount through IMPS/NEFT/RTGS to BYPL account mentioned herein in Appendix II - **BYPL BANK DETAIL WITH IFSC CODE.**

EMD shall be valid for One Hundred Twenty (120) days after the due date of submission drawn in favour of BSES Yamuna Power Ltd.

The EMD may be forfeited in the case of:

- (a) the Bidder withdraws its bid during the period of specified bid validity
- or
- (b) the case of a successful Bidder, if the Bidder does not
 - (i) Accept the Purchase Order, or
 - (ii) Furnish the required performance security BG.

10.0 **BID PRICES**

10.01 Bidders shall quote for the entire Scope of Supply/Work with a break-up of prices for individual items. The total Bid Price shall also cover all the Supplier's obligations mentioned in or reasonably to be inferred from the Bidding Documents in respect of Design, Supply, and Transportation to the site, all in accordance with the requirement of the Bidding Documents. The Bidder shall complete the appropriate Price Schedules included herein, stating the Unit Price for each item & total Price.

10.02 The prices offered shall be inclusive of all costs as well as Duties, Taxes and Levies paid or payable during the execution of the supply work, a breakup of price constituents, should be there.

10.03 Prices quoted by the Bidder shall be "**Firm**" and not subject to any price adjustment during the performance of the Contract. **A Bid submitted with an adjustable price/ Price Variation Clause will be treated as non -responsive and rejected.**

11.0 **BID CURRENCIES**

11.01 Prices shall be quoted in Indian Rupees Only.

12.0 **PERIOD OF VALIDITY OF BIDS**

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Bidders seal & Signature

- 12.01 Bids shall remain valid for 120 days from the due date of submission of the Bid.
- 12.02 Notwithstanding Clause 12.01 above, the Purchaser may solicit the Bidder's consent to an extension of the Period of Bid Validity. The request and the responses thereto shall be made in writing and sent by post/courier.

13.0 ALTERNATIVE BIDS

- 13.01 Bidders shall submit Bids, which comply with the Bidding Documents. Alternative Bids will not be considered. The attention of Bidders is drawn to the provisions regarding the rejection of Bids in the terms and conditions, which are not substantially responsive to the requirements of the Bidding Documents.

14.0 FORMAT AND SIGNING OF BID

- 14.01 The original Bid Form and accompanying documents (as specified in Clause 5.0), clearly marked "Original Bid" plus Duplicate Soft copy in a USB flash drive must be received by the Purchaser at the date, time and place specified pursuant to Clauses 15.0 and 16.0. In the event of any discrepancy between the original and the copies, the original shall govern.

- 14.02 The original Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to sign on behalf of the Bidder. Such authorization shall be indicated by written Power-of-Authority accompanying the Bid. The Bid submitted on behalf of companies registered with the Indian Companies Act, for the time being in force, shall be signed by persons duly authorized to submit the Bid on behalf of the Company and shall be accompanied by certified true copies of the resolutions, extracts of Articles of Association, special or general Power of Attorney etc. to show clearly the title, authority and designation of persons signing the Bid on behalf of the Company. Satisfactory evidence of the authority of the person signing on behalf of the Bidder shall be furnished with the bid. A bid by a person who affixes to his signature the word 'President', 'Managing Director', 'Secretary', 'Agent' or other designation without disclosing his principal will be rejected.

The Bidder's name stated on the Proposal shall be the exact legal name of the firm.

- 14.03 The Bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the Bid.

D. SUBMISSION OF BIDS

15.0 SEALING AND MARKING OF BIDS

- 15.01 Bid submission: One original (hard copy) & One Duplicate Soft copy in a USB flash drive of all the Bid Documents shall be sealed and submitted to the Purchaser before the closing time for submission of the bid.

- 15.02 The Technical Documents and the EMD shall be enclosed in a sealed envelope and the said envelope shall be superscribed with — "Technical Bid & EMD". The price bid shall be inside another sealed envelope with superscribed "Financial Bid". Both these envelopes shall be sealed inside another big envelope. All the envelopes should bear the Name and Address of the Bidder and marking for the Original. The envelopes should be superscribed with — "Tender Notice No. & Due date of opening".

- 15.03 The Bidder has the option of sending the Bids in person. Bids submitted by Email/Telex/Telegram /Fax will be rejected. No request from any Bidder to the Purchaser to collect the proposals from

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Courier/Airlines/Cargo Agents etc. shall be entertained by the Purchaser.

16.0 DEADLINE FOR SUBMISSION OF BIDS

16.01 The original Bid, together with the required copies, must be received by the Purchaser at the address on or before the due date & time of submission.

16.02 The Purchaser may, at its discretion, extend the deadline for the submission of Bids by amending the Bidding Documents in accordance with Clause 6.0, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

17.0 ONE BID PER BIDDER

17.01 Each Bidder shall submit only one Bid by itself. No Joint venture is acceptable. A Bidder who submits or participates in more than one Bid will cause all those Bids to be rejected.

18.0 LATE BIDS

18.01 Any Bid received by the Purchaser after the deadline for submission of Bids prescribed by the Purchaser, pursuant to Clause 16.0, will be declared "Late" and may be rejected and returned unopened to the Bidder.

19.0 MODIFICATIONS AND WITHDRAWAL OF BIDS

19.01 The Bidder is not allowed to modify or withdraw its Bid after the Bid's submission subject to any corrigendum/addendum/modifications in the tender documents uploaded to the website.

E. EVALUATION OF BID

20.0 PROCESS TO BE CONFIDENTIAL

Information relating to the examination, clarification, evaluation and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process. Any effort by a Bidder to influence the Purchaser's processing of Bids or award decisions may result in the rejection of the Bidder's Bid.

21.0 CLARIFICATION OF BIDS

To assist in the examination, evaluation and comparison of Bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its Bid. All responses to requests for clarification shall be in writing and no change in the price or substance of the Bid shall be sought, offered or permitted.

22.0 PRELIMINARY EXAMINATION OF BIDS / RESPONSIVENESS

22.01 Purchaser will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bids are generally in order. Purchaser may ask for submission of original documents to verify the documents submitted in support of qualification criteria.

22.02 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price per item that is obtained by multiplying the unit price and quantity, the

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unit price shall prevail and the total price per item will be corrected. If there is a discrepancy between the Total Amount and the sum of the total price per item, the sum of the total price per item shall prevail and the Total Amount will be corrected.

22.03 Prior to the detailed evaluation, Purchaser will determine the substantial responsiveness of each Bid to the Bidding Documents including production capability and acceptable quality of the Goods offered. A substantially responsive Bid is one, which conforms to all the terms and conditions of the Bidding Documents without material deviation.

22.04 Bid determined as not substantially responsive will be rejected by the Purchaser and/or the Purchaser and may not subsequently be made responsive by the Bidder by correction of the non - conformity.

23.0 **EVALUATION AND COMPARISON OF BIDS**

23.01 The evaluation of Bids shall be done based on the delivered cost competitiveness basis.

23.02 The evaluation of the Bids shall be a stage-wise procedure. The following stages are identified for evaluation purposes: In the first stage, the Bids would be subjected to a responsiveness check. The Technical & qualifying Proposals and the Conditional ties of the Bidders would be evaluated.

Subsequently, the Financial Proposals along with Supplementary Financial Proposals, if any, of Bidders with Techno-commercially Acceptable Bids shall be considered for final evaluation.

23.03 The Purchaser's evaluation of a Bid will take into account, in addition to the Bid price, the following factors, in the manner and to the extent indicated in this Clause:

(a) Delivery Schedule

(b) Conformance to Qualifying Criteria

(c) Deviations from Bidding Documents

Bidders shall base their Bid price on the terms and conditions specified in the Bidding Documents.

The cost of all quantifiable deviations and omissions from the specification, terms and conditions specified in the Bidding Documents shall be evaluated. **The Purchaser will make its own assessment of the cost of any deviation to ensure a fair comparison of Bids.**

23.04 Any price adjustments, which result from the above procedures, shall be added for the purposes of comparative evaluation only to arrive at an "Evaluated Bid Price". Bid Prices quoted by Bidders shall remain unaltered.

F. AWARD OF CONTRACT

24.0 **CONTACTING THE PURCHASER**

24.01 If any Bidder wishes to contact the Purchaser on any matter related to the Bid, from the time of Bid opening to the time of contract award, the same shall be done in writing only.

24.02 Any effort by a Bidder to influence the Purchaser and/or in the Purchaser's decisions in respect of Bid evaluation, Bid comparison or Contract Award, will result in the rejection of the Bidder's Bid.

25.0 **THE PURCHASER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS**

Submission of bids shall not automatically construe qualification for evaluation. The Purchaser reserves the right to accept or reject any Bid and to annul the Bidding process and reject all Bids at anytime prior to the award of the Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Purchaser's action.

26.0 AWARD OF CONTRACT

The Purchaser will award the Contract to the successful Bidder whose Bid has been Determined to be the lowest-evaluated responsive Bid, provided further that the Bidder has been determined to be qualified to satisfactorily perform the Contract. Purchaser reserves the right to award order to other bidders in the tender, provided it is required for timely execution of the project & provided he agrees to come to the lowest rate. Purchaser reserves the right to distribute the entire tender quantity at its own discretion without citing any reasons thereof.

27.0 THE PURCHASER'S RIGHT TO VARY QUANTITIES

The Purchaser reserves the right to vary the quantity i.e. increase or decrease the numbers/quantities without any change in terms and conditions during the execution of the Order.

28.0 LETTER OF INTENT/ NOTIFICATION OF AWARD

The letter of intent/ Notification of Award shall be issued to the successful Bidder whose bids have been considered responsive, techno-commercially acceptable and evaluated to be the lowest (L1). The successful Bidder shall be required to furnish a letter of acceptance within 7 days of the issue of the letter of intent /Notification of Award by Purchaser.

29.0 PERFORMANCE BANK GUARANTEE (PBG)

To be submitted within twenty-eight (28) days from the date of issuance of the Letter of Intent/Award/RC. Bidder shall initially submit the performance bank guarantee (PBG) equivalent to 1% of RC Value (including GST) valid till RC validity period plus three months claim period. Upon receipt of the PBG by BYPL against RC, the EMD shall be released. Thereafter bidder shall submit PBG on Purchase Order (PO) basis equivalent to 10% of the PO value (including GST) valid for a period of 30 months from the date of last receipts at site/stores plus 3 months claim period.

30.0 CORRUPT OR FRAUDULENT PRACTICES

30.01 The Purchaser requires that the Bidders observe the highest standard of ethics during the procurement and execution of the Project. In pursuance of this policy, the Purchaser:

- (a) Defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "Corrupt practice" means behaviour on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them, or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving, or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; and
 - (ii) "Fraudulent practice" means a misrepresentation of facts in order to influence a procure t process or the execution of a contract to the detriment of the Purchaser, and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non -competitive levels and to deprive the Purchaser of the benefits of free and open competition.

(b) Will reject a proposal for award if it determines that the Bidder recommended for award has

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- engaged in corrupt or fraudulent practices in competing for the contract in question;
- (c) Will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a contract.

30.02 Furthermore, Bidders shall be aware of the provision stated in the Terms and Conditions of the Contract.

31.0 **STATUTORY GUIDELINES & REGULATIONS**

The bidder shall make himself fully aware & familiarize himself of all applicable laws / guidelines / regulations.

32.0 **PRIORITY OF CONTRACT DOCUMENTS**

The several documents forming the Agreement are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies, the same shall be explained and adjusted by the company, who shall, accordingly, issue suitable instructions thereon to the Contractor. In such event, unless otherwise provided in the agreement or explained by way of instructions by the company, as mentioned above, the priority of the documents forming the Agreement shall be as follows:

- i) Contract Agreement/Purchase Order.
 - (a) Special Conditions of Contract
 - (b) General Conditions of Contract
- (ii) The Letter of Acceptance/ Intent
- (iii) Agreed Minutes of the Tender Negotiation Meetings
- (iv) Agreed Minutes of the Tender Technical Meetings
- (v) The Priced Bill of Quantities
- (vi) The Technical Specifications / Scope of work
- (vii) The Tender document, including all Appendices and/or Addenda, Corrigendum the latest taking precedence.

In the event of any conflict between the above-mentioned documents, the more stringent requirement or conditions which shall be favourable to the company shall govern and the decision of company/BYPL shall be final and binding upon the parties.

APPENDIX I

(FORMAT FOR EMD BANK GUARANTEE)

(To be issued in a Non-Judicial Stamp Paper of Rs.50/-purchased in the name of the bank)

Whereas [*name of the Bidder*] (hereinafter called the "Bidder") has submitted its bid dated [*date of submission of bid*] for the supply of [*name and/or description of the goods*] (hereafter called the "Bid").

KNOW ALL PEOPLE by these presents that WE [*name of bank*] at [*Branch Name and address*], having our registered office at [*address of the registered office of the bank*] (herein after called the "Bank"), are bound unto BSES Yamuna Power Ltd., with its Corporate Office at Shaktikiran Building, Karkardooma, Delhi - 110032, (herein after called —the "Purchaser") in the sum of Rs..... (Rupees..... only) for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents.

Sealed with the Common Seal of the said Bank this _____ day of _____ 20_____.

The conditions of this obligation are:

- 1 If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
2. If the Bidder, having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity:
 - (a) fails or refuses to execute the Contract Form, if required; or
 - (b) fails or refuses to furnish the performance security, In accordance with the Instructions to Bidders/ Terms and Conditions;

We undertake to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that is its demand the purchaser will note that amount claimed by it is due to it, owing to the occurrence of one or both of the two condition(s), specifying the occurred condition or condition(s).

This guarantee will remain in force up to and including One Hundred Twenty (120) days after the due date of submission bid, and any demand in respect thereof should reach the Bank not later than the above date.

(Stamp & signature of the bank)

Signature of the witness

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BID FORM

To

Head of Department
Contracts & Material Deptt.
BSES Yamuna Power Ltd
Shaktikiran Building, Karkardooma,
Delhi 110032

Sir,

1 We understand that BYPL is desirous of procuring..... for it's licensed distribution network area in Delhi

2 Having examined the Bidding Documents for the above named works, we the undersigned, offer to deliver the goods in full conformity with the Terms and Conditions and technical specifications for the sum indicated in Price Bid or such other sums as may be determined in accordance with the terms and conditions of the contract. The amounts are in accordance with the Price Schedules attached herewith and are made part of this bid.

3 If our Bid is accepted, we under take to deliver the entire goods as) as per delivery schedule mentioned in Section IV from the date of award of purchase order/letter of intent.

4 If our Bid is accepted, we will furnish a performance bank guarantee for due performance of the Contract in accordance with the Terms and Conditions.

5 We agree to abide by this Bid for a period of 120 days from the due date of bid submission and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

6 We declare that we have studied the provision of Indian Laws for supply of equipments/materials and the prices have been quoted accordingly.

7 Unless and until Letter of Intent is issued, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.

8 We understand that you are not bound to accept the lowest, or any bid you may receive.

9 There is provision for Resolution of Disputes under this Contract, in accordance with the Laws and Jurisdiction of Contract.

Dated this..... day of..... 20XX

Signature..... In the capacity of

.....duly authorized to sign for and on behalf of

(IN BLOCK CAPITALS)

ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed and stamped by the bidder)

BSES Yamuna Power Ltd (hereinafter referred to as "**BYPL**") intends to use the reverse auction through SAP-SRM tool as an integral part of the entire tendering process. All the bidders who are found as techno commercial qualified based on the tender requirements shall be eligible to participate in the reverse auction event.

The following terms and conditions are deemed as accepted by the bidder on participation in the bid event:

1. BYPL shall provide the user id and password to the authorized representative of the bidder. (Authorization letter in lieu of the same be submitted along with the signed and stamped acceptance form)
2. BYPL will make every effort to make the bid process transparent. However, the award decision by BYPL would be final and binding on the bidder.
3. The bidder agrees to non-disclosure of trade information regarding the purchase, identity of BYPL, bid process, bid technology, bid documentation, bid details, etc.
4. The bidder is advised to understand the auto bid process to safeguard themselves against any possibility of non-participation in the auction event.
5. In case of bidding through internet medium, bidders are further advised to ensure availability of the entire infrastructure as required at their end to participate in the auction event. Inability to bid due to telephone line glitches, internet response issues, software or hardware hangs; power failure or any other reason shall not be the responsibility of BYPL.
6. In case of intranet medium, BYPL shall provide the infrastructure to bidders, further, BYPL has sole discretion to extend or restart the auction event in case of any glitches in infrastructure observed which has restricted the bidders to submit the bids to ensure fair & transparent competitive bidding. In case of an auction event is restarted, the best bid as already available in the system shall become the start price for the new auction.
7. In case the bidder fails to participate in the auction event due to any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid as submitted by the bidder as a part of the tender shall be considered as the bidder's final no regret offer. Any offline price bids received from a bidder in lieu of non-participation in the auction event shall be out rightly rejected by BYPL.
8. The bidder shall be prepared with competitive price quotes on the day of the reverse auction event.
9. The prices as quoted by the bidder during the auction event shall be inclusive of all the applicable taxes, duties and levies and shall be FOR Landed Cost basis at BYPL site.
10. The prices submitted by a bidder during the auction event shall be binding on the bidder.
11. No requests for time extension of the auction event shall be considered by BYPL.
12. The original price bids of the bidders shall be reduced on pro-rata basis against each line item based on the final all-inclusive prices offered during conclusion of the auction event for arriving at contract amount.

Signature & seal of the Bidder

MANUFACTURER AUTHORIZATION FORM
(To be submitted on OEM's Letter Head)

Date:
Tender No.:

To

Head of Department
Contracts & Material Deptt.
BSES Yamuna Power Ltd
Shaktikiran Building, Karkardooma,
Delhi 110032

Sir,

WHEREAS M/s. *[name of OEM]*, who are official manufacturers of having factories at *[address of OEM]* do hereby authorize M/s *[name of bidder]* to submit a Bid in relation to the Invitation for Bids indicated above, the purpose of which is to provide the following Goods, manufactured by usand to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with the Conditions of Contract or as mentioned elsewhere in the Tender Document, with respect to the Goods offered by the above firm in reply to this Invitation for Bids.

We hereby confirm that in case, the channel partner fails to provide the necessary services as per the Tender Document referred above, M/s *[name of OEM]* shall provide standard warranty on the materials supplied against the contract. The warranty period and inclusion / exclusion of parts in the warranty shall remain same as defined in the contract issued to our channel partner against this tender.

Yours Sincerely,
For

Authorized Signatory

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ANNEXURE - SCHEDULE OF DEVIATIONS

Vendor shall refrain from taking any deviations on this TENDER. Still, in case of any deviations, all such deviations from this tender shall be set out by the Bidder, Clause by Clause in this schedule and submit the same as a part of the Technical Bid.

Unless **specifically** mentioned in this schedule, the tender shall be deemed to confirm the BYPL's specifications:

Technical Deviations:-

SL No.	Clause No.	NIT Page No.	NIT Clause Descriptions	Details of Clarification/deviation with justifications

Commercial Deviations:-

SL No.	Clause No.	NIT Page No.	NIT Clause Descriptions	Details of Clarification/deviation with justifications

By signing this document we hereby withdraw all the deviations whatsoever taken anywhere in this bid document and comply with all the terms and conditions, technical specifications, scope of work etc. as mentioned in the standard document except those mentioned above.

Seal of the Bidder:

Signature:

Name:

Technical Bid Submission Check List

Submission of this duly filled checklist along with the bid is mandatory. The order of documents shall be as per this technical bid submission checklist.

Bids with incomplete/ wrong information are liable for rejection.

S. No.	Description	BYPL Requirement	Bidder's Compliance (Yes/No/ Not Applicable)
1	Tender No.	Required	
2	Tender Fee, EMD & Signed Bid Form as mentioned in the tender, if applicable	Required	
3	Bidder Details		
3.1	Name of the Bidder	Required	
3.2	Company Profile/Organogram	Required	
3.3	Name of duly Authorized contact person (along with Authorizations to submit the Bid)	Required	
3.4	Contact No. of duly Authorized contact person	Required	
3.5	E-mail Id of duly Authorized contact person	Required	
4	Documents Submission Format		
4.1	Documents shall be submitted in Box file/spiral binding in offline tenders and Original pdf for online mode. Any other format is not acceptable	Required	
4.2	Index of documents with page numbers for each document	Required	
4.3	Separator with document description shall be provided before each document	Required	
5	Signed Copy of tender as an unconditional acceptance	Required	
6	Qualification Criteria Requirement Compliance, If applicable		
6.1	Summary of compliance of qualifying criteria in tabular form along with details of documentary proof provided	Required	
6.2	Detailed Documents supporting compliance of qualifying criteria	Required	
7	Technical Specification reference number	Required	
8	Drawings/ Documents as per Technical Specification		
8.1	Signed copy of technical specification	Required	
8.2	Type Test reports of offered model/ type/ rating	Required	
8.3	Guaranteed Technical particulars (GTP)	Required	
8.4	Deviation Sheet – Technical (along with soft editable copy)	Required	
8.5	Detailed Drawings	Required	
8.6	Manufacturer's quality assurance plan	Required	
8.7	Other drawings/ documents mentioned in technical specification	Required	
9	Deviation Sheet – commercial (along with soft editable copy)	Required	
10	Soft copy of complete technical bid in pen drive	Required	
11	Samples as per technical specification	Required	

VENDOR CODE OF CONDUCT

Purchaser is committed to conducting its business in an ethical, legal and socially responsible manner. To encourage compliance with all legal requirements and ethical business practices, Purchaser has established this Vendor Code of Conduct (the "Code") for Purchaser's Vendors. For the purposes of this document, "Vendor" means any company, corporation or other entity that sells, or seeks to sell goods or services, to Purchaser, including the Vendor's employees, agents and other representatives.

Fundamental to adopting the Code is the understanding that a business, in all of its activities, must operate in full compliance with the laws, rules and regulations of the countries in which it operates. This Code encourages Vendors to go beyond legal compliance, drawing upon internationally recognized standards, in order to advance social and environmental responsibility.

I. Labour and Human Rights

Vendors must uphold the human rights of workers, and treat them with dignity and respect as understood by the international community.

- . Fair Treatment - Vendors must be committed to a workplace free of harassment. Vendors shall not threaten workers with or subject them to harsh or inhumane treatment, including sexual harassment, sexual abuse, corporal punishment, mental coercion, physical coercion, verbal abuse or unreasonable restrictions on entering or exiting company provided facilities.

- . Antidiscrimination - Vendors shall not discriminate against any worker based on race, colour, age, gender, sexual orientation, ethnicity, disability, religion, political affiliation, union membership, national origin, or marital status in hiring and employment practices such as applications for employment, promotions, rewards, access to training, job assignments, wages, benefits, discipline, and termination. Vendors shall not require a pregnancy test or discriminate against pregnant workers except where required by applicable laws or regulations or prudent for workplace safety. In addition, Vendors shall not require workers or potential workers to undergo medical tests that could be used in a discriminatory way except where required by applicable law or regulation or prudent for workplace safety.

- . Freely Chosen Employment - Forced, bonded or indentured labour or involuntary prison labour is not to be used. All work will be voluntary, and workers should be free to leave upon reasonable notice. Workers shall not be required to hand over government-issued identification, passports or work permits as a condition of employment.

- . Prevention of Under Age Labor - Child labor is strictly prohibited. Vendors shall not employ children. The minimum age for employment or work shall be 15 years of age, the minimum age for employment in that country, or the age for completing compulsory education in that country, whichever is higher. This Code does not prohibit participation in legitimate workplace apprenticeship programs that are consistent with Article 6 of ILO Minimum Age Convention No. 138 or light work consistent with Article 7 of ILO Minimum Age Convention No. 138.

- . Juvenile Labor - Vendors may employ juveniles who are older than the applicable legal minimum age for employment but are younger than 18 years of age, provided they do not perform work likely to jeopardize their health, safety, or morals, consistent with ILO Minimum Age Convention No. 138.

- . Minimum Wages - Compensation paid to workers shall comply with all applicable wage laws, including those relating to minimum wages, overtime hours and legally mandated benefits. Any Disciplinary wage deductions are to conform to local law. The basis on which workers are being paid is to be clearly conveyed to them in a timely manner.

- . Working Hours - Studies of good manufacturing practices clearly link worker strain to reduced productivity, increased turnover and increased injury and illness. Work weeks are not to exceed maximum set by local law. Further, a work week should not be more than 60 hours per week, including overtime, except in emergency or unusual situations. Workers should be allowed at least one day off per seven-day week.

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. Freedom of Association - Open communication and direct engagement between workers and management are the most effective ways to resolve workplace and compensation issues. Vendors are to respect the rights of workers to associate freely and to communicate openly with management regarding working conditions without fear of reprisal, intimidation or harassment. Workers' rights to join labour unions seek representation and or join worker's councils in accordance with local laws should be acknowledged.

II. Health and Safety

Vendors must recognize that in addition to minimizing the incidence of work-related injury and illness, a safe and healthy work environment enhances the quality of products and services, consistency of production and worker retention and morale. Vendors must also recognize that ongoing worker input and education is essential to identifying and solving health and safety issues in the workplace.

The health and safety standards are:

- . Occupational Injury and Illness - Procedures and systems are to be in place to prevent, manage, track and report occupational injury and illness, including provisions to: a) encourage worker reporting; b) classify and record injury and illness cases; c) provide necessary medical treatment; d) investigate cases and implement corrective actions to eliminate their causes; and e) facilitate return of workers to work.
- . Emergency Preparedness - Emergency situations and events are to be identified and assessed, and their impact minimized by implementing emergency plans and response procedures, including: emergency reporting, employee notification and evacuation procedures, worker training and drills, appropriate fire detection and suppression equipment, adequate exit facilities and recovery plans.
- . Occupational Safety - Worker exposure to potential safety hazards (e.g., electrical and other energy sources, fire, vehicles, and fall hazards) are to be controlled through proper design engineering and administrative controls, preventative maintenance and safe work procedures (including lockout/tagout), and ongoing safety training. Where hazards cannot be adequately controlled by these means, workers are to be provided with appropriate, well-maintained, personal protective equipment. Workers shall not be disciplined for raising safety concerns.
- . Machine Safeguarding - Production and other machinery is to be evaluated for safety hazards. Physical guards, interlocks and barriers are to be provided and properly maintained where machinery presents an injury hazard to workers.
- . Industrial Hygiene - Worker exposure to chemical, biological and physical agents is to be identified, evaluated, and controlled. Engineering or administrative controls must be used to control overexposures. When hazards cannot be adequately controlled by such means, worker health is to be protected by appropriate personal protective equipment programs.
- . Sanitation, Food, and Housing - Workers are to be provided with ready access to clean toilet, facilities potable water and sanitary food preparation, storage, and eating facilities. Worker dormitories provided by the Participant or a labour agent are to be maintained clean and safe, and provided by the Participant or a labour agent, hot water for bathing and showering, and adequate heat and ventilation and reasonable personal space along with reasonable entry and exit privileges.
- . Physically Demanding Work - Worker exposure to the hazards of physically demanding tasks, including manual material handling and heavy or repetitive lifting, prolonged standing and highly repetitive or forceful assembly tasks is to be identified, evaluated and controlled.

III. Environmental

Vendors should recognize that environmental responsibility is integral to producing world class products. In manufacturing operations, adverse effects on the environment and natural resources are to be minimized while safeguarding the health and safety of the public.

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The environmental standards are:

- . Product Content Restrictions - Vendors are to adhere to applicable laws and regulations regarding prohibition or restriction of specific substances including labeling laws and regulations for recycling and disposal. In addition, Vendors are to adhere to all environmental requirements specified by Purchaser.
- . Chemical and Hazardous Materials -Chemical and other materials posing a hazard if released to the environment are to be identified and managed to ensure their safe handling, movement storage, recycling or reuse and disposal.
- . Air Emissions - Air emissions of volatile organic chemicals, aerosols, corrosives, particulates, ozone depleting chemicals and combustion by-products generated from operations are to be characterized, monitored, controlled and treated as required prior to discharge.
- . Pollution Prevention and Resource Reduction -Waste of all types, including water and energy, are to be reduced or eliminated at the source or by practices such as modifying production, maintenance and facility processes, materials substitution, conservation, recycling and re-using materials.
- . Wastewater and Solid Waste - Wastewater and solid waste generated from operations industrial processes and sanitation facilities are to be monitored, controlled and treated as required prior to discharge or disposal.
- . Environmental Permits and Reporting - All required environmental permits (e.g. discharge monitoring) and registrations are to be obtained, maintained and kept current and their operational and reporting requirements are to be followed.

IV. Ethics

Vendors must be committed to the highest standards of ethical conduct when dealing with workers, Vendors, and customers.

- . Corruption, Extortion, or Embezzlement - Corruption, extortion, and embezzlement, in any form, are strictly prohibited. Vendors shall not engage in corruption, extortion or embezzlement in any form and violations of this prohibition may result in immediate termination as an Vendor and in legal action.
- . Disclosure of Information - Vendors must disclose information regarding its business activities, structure financial situation, and performance in accordance with applicable laws and regulations and prevailing industry practices.
- . No Improper Advantage - Vendors shall not offer or accept bribes or other means of obtaining undue or improper advantage.
- . Fair Business, Advertising, and Competition - Vendors must uphold fair business standards in advertising, sales, and competition.
- . Business Integrity - The highest standards of integrity are to be expected in all business interactions. Participants shall prohibit any and all forms of corruption, extortion and embezzlement. Monitoring and enforcement procedures shall be implemented to ensure conformance.
- . Community Engagement - Vendors are encouraged to engage the community to help foster social and economic development and to contribute to the sustainability of the communities in which they operate.
- . Protection of Intellectual Property - Vendors must respect intellectual property rights; safeguard customer information; and transfer of technology and know-how must be done in a manner that protects intellectual property rights.

V. Management System

Vendors shall adopt or establish a management system whose scope is related to the content of this Code. The management system shall be designed to ensure (a) compliance with applicable laws, regulations and customer requirements related to the Vendors' operations and products; (b) conformance with this Code; and (c) identification and mitigation of operational risks related to this Code. It should also facilitate continual improvement.

The management system should contain the following elements:

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- . Company Commitment - Corporate social and environmental responsibility statements affirming Vendor's commitment to compliance and continual improvement.
- . Management Accountability and Responsibility - Clearly identified company representative[s] responsible for ensuring implementation and periodic review of the status of the management systems.
- . Legal and Customer Requirements - Identification, monitoring and understanding of applicable laws, regulations and customer requirements.
- . Risk Assessment and Risk Management - Process to identify the environmental, health and safety and labour practice risks associated with Vendor's operations. Determination of the relative significance for each risk and implementation of appropriate procedural and physical controls to ensure regulatory compliance to control the identified risks.
- . Performance Objectives with Implementation Plan and Measures - Areas to be included in a risk assessment for health and safety are warehouse and storage facilities, plant/facilities support equipment, laboratories and test areas, sanitation facilities (bathrooms), kitchen/cafeteria and worker housing /dormitories. Written standards, performance objectives, and targets an implementation plans including a periodic assessment of Vendor's performance against those objectives.
- . Training - Programs for training managers and workers to implement Vendor's policies, procedures and improvement objectives.
- . Communication - Process for communicating clear and accurate information about Vendor's performance, practices and expectations to workers, Vendors and customers.
- . Worker Feedback and Participation - Ongoing processes to assess employees' understanding of and obtain feedback on practices and conditions covered by this Code and to foster continuous improvement.
- . Audits and Assessments - Periodic self-evaluations to ensure conformity to legal and regulatory requirements, the content of the Code and customer contractual requirements related to social and environmental responsibility.
- . Corrective Action Process - Process for timely correction of deficiencies identified by internal or external assessments, inspections, investigations and reviews.
- . Documentation and Records - Creation of documents and records to ensure regulatory compliance and conformity to company requirements along with appropriate confidentiality to protect privacy.

The Code is modeled on and contains language from the Recognized standards such as International Labour Organization Standards (ILO), Universal Declaration of Human Rights (UDHR), United Nations Convention against Corruption, and the Ethical Trading Initiative (ETI) were used as references in preparing this Code and may be useful sources of additional information

**GENERAL CONDITIONS OF CONTRACT
(GCC-SUPPLY)**

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GENERAL CONDITIONS OF CONTRACT (GCC)-SUPPLY

The General Condition of Contract shall form a part of specifications, contract document.

1.0 General Instructions

- 1.01** All the Bids shall be prepared and submitted in accordance with these instructions.
- 1.02** Bidder shall bear all costs associated with the preparation and delivery of its Bid, and the Purchaser will in no case be responsible or liable for these costs.
- 1.03** The Bid should be submitted by the Bidder in whose name the bid document has been issued and under no circumstances it shall be transferred/sold to the other party.
- 1.04** The Purchaser reserves the right to request any additional information and also reserves the right to reject the proposal of any Bidder, if in the opinion of the Purchaser, the data in support of RFQ requirement is incomplete.
- 1.05** The Bidder is expected to examine all instructions, forms, terms & conditions and specifications in the Bid Documents. Failure to furnish all information required in the Bid Documents or submission of a Bid not substantially responsive to the Bid Documents in every respect may result in rejection of the Bid. However, the Purchaser's decision in regard to the responsiveness and rejection of bids shall be final and binding without any obligation, financial or otherwise, on the Purchaser.

2.0 Definition of Terms

- 2.01** "Purchaser" shall mean BSES Yamuna Power Limited, on whose behalf this bid enquiry is issued by its authorized representative / officers.
- 2.02** "Bidder" shall mean the firm who quotes against this bid enquiry issued by the Purchaser. "Supplier" or "Supplier" shall mean the successful Bidder and/or Bidders whose bid has been accepted by the Purchaser and on whom the "Letter of Acceptance" is placed by the Purchaser and shall include his heirs, legal representatives, successors and permitted assigns wherever the context so admits.
- 2.03** "Supply" shall mean the Scope of Contract as described.
- 2.04** "Specification" shall mean collectively all the terms and stipulations contained in those portions of this bid document known as RFQ, Commercial Terms & Conditions, Instructions to Bidders, Technical Specifications and the Amendments, Revisions, Deletions or Additions, as may be made by the Purchaser from time to time.
- 2.05** "Letter of Acceptance" shall mean the official notice issued by the Purchaser notifying the Supplier that his proposal has been accepted and it shall include amendments thereto, if any, issued by the Purchaser. The "Letter of Acceptance" issued by the Purchaser shall be binding on the "Supplier" The date of Letter of Acceptance shall be taken as the effective date of the commencement of contract.
- 2.06** "Month" shall mean the calendar month and "Day" shall mean the calendar day.

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- 2.07** "Codes and Standards" shall mean all the applicable codes and standards as indicated in the Specification.
- 2.08** "Offer Sheet" shall mean Bidder's firm offer submitted to BYPL in accordance with the specification.
- 2.09** "Contract" shall mean the "Letter of Acceptance/Purchase Order" issued by the Purchaser.
- 2.10** "Contract Price" shall mean the price referred to in the "Letter of Acceptance/Purchase Order".
- 2.11** "Contract Period" shall mean the period during which the "Contract" shall be executed as agreed between the Supplier and the Purchaser in the Contract inclusive of extended contract period for reason beyond the control of the Supplier and/or Purchaser due to force majeure.
- 2.12** "Acceptance" shall mean and deemed to include one or more of the following as will be stipulated in the specification:
- a) The written acceptance of material by the inspector at suppliers works to ship the materials.
 - b) Acceptance of material at Purchaser site stores after its receipt and due inspection/ testing and release of material acceptance voucher.
 - c) Where the scope of the contract includes supply, acceptance shall mean issue of necessary equipment / material takeover receipt after installation & commissioning and final acceptance.
- 3.0 Contract Documents & Priority**
- 3.01** Contract Documents: The terms and conditions of the contract shall consist solely of these RFQ conditions and the offer sheet.
- 4.0 Scope of Supply -General**
- 4.01** The "Scope of Supply" shall be on the basis of Bidder's responsibility, completely covering the obligations, responsibility and supplies provided in this Bid enquiry whether implicit or explicit.
- 4.02** Bidder shall have to quote for the Bill of quantities as listed in Section – IV of this RFQ.
- 4.03** Quantity variation and additional requirements if any shall be communicated to successful bidder during project execution.
- 4.04** All relevant drawings, data and instruction manuals.
- 5.0 Quality Assurance and Inspection**
- 5.01** Immediately on award of contract, the bidder shall prepare detailed quality assurance plan / test procedure identifying the various stages of manufacture, quality checks performed at each stage, raw material inspection and the Customer hold points. The document shall also furnish details of method of checking, inspection and acceptance standards / values and get the approval of Purchaser before proceeding with manufacturing. However, Purchaser shall have right to review the inspection reports, quality checks and results of suppliers in house inspection department which are not Customer hold points and the supplier shall comply with the remarks made by purchaser or his representative on such reviews with regards to further testing, rectification or rejection, etc.

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- 5.02** Witness and Hold points are critical steps in manufacturing, inspection and testing where the supplier is obliged to notify the Purchaser in advance so that it may be witnessed by the Purchaser. Final inspection is a mandatory hold point. The supplier to proceed with the work past a hold point only after clearance by purchaser or a witness waiver letter from BYPL.
- 5.03** The performance of waiver of QA activity by Purchaser at any stage of manufacturing does not relieve the supplier of any obligation to perform in accordance with and meet all the requirements of the procurement documents and also all the codes & reference documents mentioned in the procurement document nor shall it preclude subsequent rejection by the purchaser.
- 5.04** On completion of manufacturing the items can only be dispatched after receipt of dispatch Instructions issued by the Purchaser.
- 5.05** All in-house testing and inspection shall be done with out any extra cost. The in-house inspection shall be carried out in presence of BSES/BSES authorized third party inspection agency. Cost of Futile/abortive visit(s) shall be debited from the invoices.
- 5.06** Purchaser reserves the right to send any material being supplied to any recognized laboratory for testing, wherever necessary and the cost of testing shall be borne by the Bidder. In case the material is found not in order with the technical requirement / specification, the charges along with any other penalty which may be levied is to be borne by the bidder. To avoid any complaint the supplier is advised to send his representative to the stores to see that the material sent for testing is being sealed in the presence of bidder's representative.

6.0 Inspection & Test Charges

- 6.01 GOODS shall be inspected by BUYER and/or third party inspection agency nominated by BUYER. Inspection shall carry out stage wise/final inspection as per agreed QA /QC procedure. In addition, inspection of GOODS shall be carried out at our Site/stores. SELLER shall, however, repair/replace the damaged/rejected GOODS to the satisfaction of BUYER at no extra cost.
- 6.02 Inspection charges are included in total order value, however BUYER will bear third party inspection charges. In case of futile/abortive visit of BUYER's inspector at SELLER'S works, the cost towards the same shall be debited from the SELLER's invoices.
- 6.03 GOODS covered by this PURCHASE ORDER shall not be dispatched in whole or in part until SELLER has received a written Release for Shipment Notice from BUYER or their designated representative.
- 6.04 Inspection call shall be raised minimum 15(fifteen) days in advance from delivery schedule mentioned in PO and duly filled Format issued by BYPL

7.0 Handling and Storage

- 7.01 Material Safety Data Sheet (MSDS), detail handling & storage instruction sheet/manual, wherever applicable, to be furnished before commencement of supply and one copy is to be submitted in store/site with First Lot.

8.0 Packing, Packing List & Marking

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8.01 **Packing:** Supplier shall pack or shall cause to be packed all Commodities in crates/boxes/drums/containers/cartons and otherwise in such a manner as shall be reasonably suitable for shipment by road or rail to BYPL, Delhi/New Delhi stores/site without undue risk of damage in transit. All the packaging materials as prescribed shall be supplied preferably with bio-degradable packing- materials.

8.02 **Packing List:** The contents of each package shall be itemized on a detailed list showing the exact weight, extreme outside dimensions (length, width & weight) of each container/box/drum/carton, Item SAP Code, PO No & date. One copy of the packing list shall be enclosed in each package delivered.

9.0 Prices/Rates/Taxes

9.01 Price basis for supply of materials

a) Bidder to quote their prices on Landed Cost Basis and separate price for each item for supply to BYPL Delhi/New Delhi stores inclusive of packing, forwarding, loading at manufacturer's premises, payment of GST, Freight, and any other local charges. **Octroi is presently not applicable in Delhi and however if applicable shall be reimbursed at actuals.**

b) The above supply prices shall also include unloading at BYPL Delhi/New Delhi stores/sites.

c) Transit insurance will be arranged by Bidder

10.0 Taxes & Duties

10.01 Prices for Goods are on Ex- Works basis. For the Goods covered under the GST laws, all taxes that are applicable under CGST, SGST, UGST, IGST and GST Compensation Cess shall be payable extra.

10.02 For the Goods not covered in the GST laws, the applicable ED, VAT / CST shall be payable extra at applicable rates.

10.03 GSTIN of BSES YAMUNA POWER LTD - 07AABCC8569N1Z0
CST No of BSES YAMUNA POWER LTD -07740254593
TIN NO of BSES YAMUNA POWER LTD - 07740254593
PAN NO of BSES YAMUNA POWER LTD - AABCC8569N

10.04 At the end of each month, the SELLER must submit their detail of invoices and amount thereof to the concerned officer in charge, within 07 days after the close of the respective month to which supply relates. Non submission of the said request would be treated as good as that the SELLER has no requirement of reconciliation.

11.0 Invoicing Instructions

11.01 Invoices in triplicate [1) Original for recipient, 2) Duplicate for Transporter, 3) Triplicate for supplier] shall be made out and delivered to the following address: BSES YAMUNA POWER LIMITED, SHAKTI KIRAN BUILDING, KARKARDOOMA, DELHI-110032.

MDCC will be released separately for Capex & Opex. Invoice will be submitted by supplier as per the MDCC.

11.02 Vendor shall obtain GST registration in the State from where the supply will be carried out. Vendors supplying Goods to the Purchaser shall have a valid GST registration number and shall submit GST Tax Invoice and other documents as per SGST Act, CGST Act, IGST Act, UTGST Act, GST

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Compensation Cess Act and Rules made there under. Failure to submit GST Tax Invoice shall be liable for withholding SGST, CGST, IGST, UTGST, GST Compensation Cess amount charged by the vendor while releasing the payment.

- 11.03 Invoice will be in the name of BSES YAMUNA POWER LIMITED & address of the store/site mentioned in the MDCC. Invoice should contain all information as required under GST Invoice, Debit Note and Credit Rules. The government has notified rules of invoicing under GST along with a template of invoice(GST INV-01) covering the elements such as supplier's details, GSTIN No, HSN Codes, item details, GST tax rates, etc that need to be presented by the supplier.
- 11.04 Vendor to carefully examine and charge relevant CGST / SGST, UGST, IGST and GST compensation cess as applicable to the transactions.
- 11.05 Timely provision of invoices / Debit Notes / Credit Notes:
- 11.05.1 Vendor to timely provide invoice / Debit note / Credit note to enable Purchaser to claim tax benefit on or before stipulated time period. All necessary adjustment entries (Credit Note, Purchase Returns, Debit Notes) shall be made within the time lines prescribed under the GST Laws.
- 11.05.2 In case of receipt of advance, the Vendor undertakes to raise the tax invoice. Purchaser, upon payment of advance, shall issue payment voucher as per applicable GST laws and rules. Four copies of the invoices need to be provided by suppliers and wherever the law requires, an Electronic Reference Number for each invoice.
Documents and devices to be carried by a person-in-charge of a conveyance under.
- 11.06 E Way Bills / transit documents for movement of Goods:
Wherever applicable, the Vendor shall be responsible to issue required transit documents / E Way Bills for movement of Goods and the logistic partner / transporter shall not be liable for any loss arising due to confiscation of goods by government agencies on account of lack of proper documents or any mis-declaration. The Supplier is responsible to comply with rules applicable for E-way bill. Any violation in provision of E-way Bill will attract penalty and seizure of Transit Material. Any Penalty and Pre-Deposit due to violation of rules/provision shall be paid and borne by Supplier. Also, Supplier is responsible for releasing of goods from Authority whether CGST/SGST. Delay in supply from the contractual date due to seizure of goods shall also attract liquidated damages.

12.0 Terms of payment and billing

- 12.01 For Supply of Equipment's:
100% payment shall be made within 45 days from the date of receipt & acceptance of material at store/site against submission of the following documents against dispatch of each consignment at our Vendor Support Cell (VSC):
- a) Signed copy of accepted Rate Contract / Purchase Order (for first payment)
 - b) LR / RR / BL as applicable
 - c) Challan as applicable
 - d) Two (02) copies of Supplier's detailed Recipient Invoice showing Commodity description, quantity, unit price, total price and basis of delivery, and being 100% of the value of the consignment claimed.
 - e) Two (02) copies of Supplier's transporter invoice duly receipted by BYPL Store & Original certificate issued by BYPL confirming receipt of the subject material at Store/Site and acceptance of the same as per the provisions of the contract.
 - f) Two (02) copies Packing List / Detailed Packing List

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- g) Approved Test certificates / Quality certificates, if applicable
- h) Certificate of Origin, if applicable
- i) Material Dispatch Clearance Certificate (MDCC)
- j) Insurance Policy / Certificate, if applicable
- k) Warranty / Guarantee Certificate, if applicable
- l) Check list for bill submission.

- 12.02 Purchaser has the right to recover tax loss, interest and penalty suffered due to any non-compliance of tax laws by the Vendor. In the event, Purchaser is not able to avail any tax credit due to any short coming on the part of the Vendor (which otherwise should have been available to Purchaser in the normal course), then the Vendor at his own cost and effort will get the short coming rectified. If for any reason the same is not possible, then the Vendor will make 'good' the loss suffered by Purchaser due to the tax credit it lost . In such event, any amount paid to the Vendors shall be first attributable to the tax (GST) charged in the invoice and the balance shall be considered towards the 'value' of supply of goods/ services.
- 12.03 Purchaser shall deduct "Tax Deducted at Source" wherever applicable and at the rate prescribed under the GST Laws or any other Indian law and remit the same to the Government. Necessary TDS certificates as per law shall be issued by the purchase to the vendor.
- 12.04 Any liability arising out of dispute on the tax rate, classification under HSN, calculation and payment of tax to the Government will be to the Vendor's account.
- 12.05 Where the supply of Goods are liable to GST under reverse charge mechanism, then the supplier should clearly mention the category under which it has been registered and also that "the liability of payment of GST is on the Recipient of Supply".

13.0 Tax Indemnity Clause

- 13.01 Vendor (along with its affiliates in India or overseas including any agent/ third party contractor or any other person appointed by such affiliates for the purpose of this agreement) agrees that it will be solely responsible for performing all compliances and making payments of all taxes (direct tax or indirect tax including but not limited to income-tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess custom duty, excise duty, Research and Development Cess, etc.), cesses, interest, penalties or any other tax/ duty/ amount/ charge/ liability arising either out of laws/ regulations applicable in India and overseas or because of a demand/ recovery initiated by any revenue authority under laws/ regulations applicable in India or overseas.
- 13.02 In case any tax liability (including but not limited to income-tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess custom duty, excise duty, Research and Development Cess, etc.), cesses, interest, penalties or any other tax/ duty/ amount/ charge/ liability becomes payable by Purchaser due to failure of the Vendor, or any of its affiliates in India or overseas including any agent/ third party contractor or any other person appointed by such affiliates for the purpose of this agreement, to comply with the relevant laws/ regulations applicable in India or overseas, Vendor undertakes to indemnify Purchaser for an amount equal to amount payable by Purchaser.
- 13.03 Further, Vendor undertakes to keep Purchaser indemnified at all times against and from all other actions, proceedings, claims, loss, damage, costs and expenses which may be brought against Purchaser or suffered or incurred by Purchaser and which shall have arisen either directly or

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indirectly out of or in connection with failure of The Vendor, or any of its affiliates in India or overseas including any agent/ third party contractor or any other person appointed by such affiliates for the purpose of this agreement, to comply with relevant obligations/ compliance under any law/ regulations applicable in India and overseas.

13.04 The parties agree to follow the following process in case any communication of demand, arising out non-compliance by Vendor (along with its affiliates in India or overseas including any agent/ third party contractor or any other person appointed by such affiliates for the purpose of this agreement), is received by Purchaser:

13.04.1 On Purchaser receiving any communication from a competent authority demanding tax liability (including but not limited to income-tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess custom duty, excise duty, Research and Development Cess, etc.), cesses, interest, penalties or any other tax/ duty/ amount/ charge/ liability, Purchaser shall, within 5 common working days from the date of receipt of such communication (save where the period to respond to the relevant authority is less than five days, in which case, as soon as reasonably possible) inform Vendor in writing of such communication.

13.04.2 Pursuant to receiving communication from Purchaser, Vendor shall suggest to accept the communication and pay the demand amount to the competent authority. In such an event, Vendor shall reimburse such amount paid to Purchaser within 5 working days from the date of payment by Purchaser to the competent authority.

13.04.3 If Vendor advises in writing and Purchaser agrees to dispute the demand, then Purchaser shall dispute the matter with competent authority as per due process prescribed under the regulations and Purchaser shall not pay the Tax Demand. In such scenario, cost of litigation including but not limited to Counsel cost, filing fees, other related charges, should be reimbursed by Vendor to Purchaser. Additionally, If any coercive steps of recovery are initiated by the department, then Purchaser would pay such amount (including by way of adjustment of refunds due to it) and the same would be reimbursed by Vendor within 5 working days from date of such recovery from Purchaser. Purchaser will take all necessary steps to avoid such recovery measures.

13.04.4 On determination of the demand through an Order issued by a Tribunal or any other similar Authority, by whatever name called, under any law applicable in India or overseas, if the demand or any part thereof becomes payable and is paid by Purchaser, then Vendor undertakes to reimburse such amount to Purchaser within 10 days from the date of payment. Alternatively, if on determination of the demand through an Order, no amount is payable by Purchaser then any refund arising to Purchaser due to such an Order shall be passed on to Vendor within 10 days from the date of receipt of refund.

14.0 The Micro, Small and Medium Enterprises (MSME)

14.01 If the SELLERS establishment is covered under the purview of The Micro, Small and Medium Enterprises Development Act, 2006 and its amendments, he shall declare so within the bid of its status failing which it will be presumed that it is a non-MSME unit. Also submit a copy of Udyog Aadhaar (UA) & Udyam Registration Number.

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15.0 Price Validity

15.01 All bids submitted shall remain valid, firm and subject to unconditional acceptance by BYPL Delhi for 120 days from the due date of submission. For awarded suppliers, the prices shall remain valid and firm till contract completion.

16.0 Performance Guarantee

16.01 To be submitted within twenty-eight (28) days from the date of issuance of the Letter of Intent/Award/RC. Bidder shall initially submit the performance bank guarantee (PBG) equivalent to 1% of RC Value (including GST) valid till RC validity period plus three months claim period. Upon receipt of the PBG by BYPL against RC, the EMD shall be released. Thereafter bidder shall submit PBG on Purchase Order (PO) basis equivalent to 10% of the PO value (including GST) valid for a period of 30 months from the date of last receipts at site/stores plus 3 months claim period.

16.02 Bank guarantee shall be drawn in favour of BSES Yamuna Power Ltd as applicable. The performance Bank guarantee shall be in the format as specified by BYPL.

17.0 Forfeiture

17.01 Each Performance Bond established under Clause 10.0 shall contain a statement that it shall be automatically and unconditionally forfeited without recourse and payable against the presentation by BYPL of this Performance Bond, to the relevant bank referred to above, together with a simple statement that supplier has failed to comply with any term or condition set forth in the Contract.

17.02 Each Performance BG established under will be automatically and unconditionally forfeited without recourse if BYPL in its sole discretion determines that supplier has failed to comply with any term or condition set forth in the contract.

18.0 Release

18.01 All Performance Bonds will be released without interest within seven (7) days from the last date up to which the Performance Bond has to be kept valid (as defined in Clause 16.0) except for the case set forth in Clause 22.0.

19.0 Defects Liability Period/Guarantee/Warranty

19.01 The bidder to Guarantee the materials / items supplied against any defect or failure, which arises due to faulty materials, workmanship or design for the entire defects liability period. The Defect liability period shall be 66 months from the date of receipt of each unit at store(s)/site(s).

19.02 If during the Defects Liability Period any GOODS are found to be defective, they shall be promptly replaced or rectified by BIDDER at its own cost (including the cost of dismantling and (reinstallation) on the instructions of BUYER and if removed from SITE for such purpose, shall be removed and re-delivered to SITE by BIDDER at its own cost.

20.0 Return, Replacement or Substitution

20.01 BYPL shall give Supplier notice of any defective Commodity promptly after becoming aware thereof. BYPL may at its discretion elect to return defective Commodities to Supplier for replacement, free

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of charge to BYPL, or may reject such Commodities and purchase the same or similar Commodities from any third party. In the latter case BYPL shall furnish proof to Supplier of the cost of such substitute purchase. In either case, all costs of any replacement, substitution, shipping, labour and other related expenses incurred in connection with the return and replacement or for the substitute purchase of a Commodity hereunder should be for the account of Supplier. BYPL may set off such costs against any amounts payable by BYPL to Supplier. Supplier shall reimburse BYPL for the amount, if any, by which the price of a substitute Commodity exceeds the price for such Commodity as quoted in the Bid. BUYER at its sole discretion shall have the opinion to dispose the material or GOODS so rejected and not taken back within forty-five days from the date of intimation of rejection.

21.0 Effective Date of Commencement of Contract

21.01 The date of the issuance of the Letter of Acceptance/Purchase Order shall be treated as the effective date of the commencement of Contract.

22.0 Time – The Essence Of Contract

22.01 The time and the date of completion of the "Supply" as stipulated in the Letter Of Acceptance / Purchase order issued to the Supplier shall be deemed to be the essence of the "Contract". The Supply has to be completed not later than the aforesaid Schedule and date of completion of supply.

23.0 The Laws and Jurisdiction of Contract:

23.01 The laws applicable to this Contract shall be the Laws in force in India.

23.02 All disputes arising in connection with the present Contract shall be settled amicably by mutual consultation failing which shall be finally settled as per the rules of Arbitration and Conciliation Act, 1996 at the discretion of Purchaser. The venue of arbitration shall be at Delhi in India

24.0 Events of Default

24.01 Events of Default. Each of the following events or occurrences shall constitute an event of default ("Event of Default") under the Contract:

- (a) Supplier fails or refuses to pay any amounts due under the Contract;
- (b) Supplier fails or refuses to deliver Commodities conforming to this RFQ/ specifications, or fails to deliver Commodities within the period specified in P.O. or any extension thereof
- (c) Supplier becomes insolvent or unable to pay its debts when due, or commits any act of bankruptcy, such as filing any petition in any bankruptcy, winding-up or reorganization proceeding, or acknowledges in writing its insolvency or inability to pay its debts; or the Supplier's creditors file any petition relating to bankruptcy of Supplier;
- (d) Supplier otherwise fails or refuses to perform or observe any term or condition of the Contract and such failure is not remediable or, if remediable, continues for a period of 30 days after receipt by the Supplier of notice of such failure from BYPL.

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25.0 Consequences of Default.

- (a) If an Event of Default shall occur and be continuing, BYPL may forthwith terminate the Contract by written notice.
- (b) In the event of an Event of Default, BYPL may, without prejudice to any other right granted to it by law, or the Contract, take any or all of the following actions;
 - (i) present for payment to the relevant bank the Performance Bond;
 - (ii) purchase the same or similar Commodities from any third party; and/or
 - (iii) recover any losses and/or additional expenses BYPL may incur as a result of Supplier's default.

26.0 Penalty for Delay

- 26.01 If supply of items / equipments is delayed beyond the supply schedule as stipulated in purchase order then the Supplier shall be liable to pay to the Purchaser as penalty for delay, a sum of 1% (one percent) of the basic (ex-works) price for every week delay of undelivered units or part thereof for individual milestone deliveries.
- 26.02 The total amount of penalty for delay under the contract will be subject to a maximum of ten percent (10%) of the basic (ex-works) price of total undelivered units.
- 26.03 The Purchaser may, without prejudice to any method of recovery, deduct the amount for such damages from any amount due or which may become due to the Supplier or from the Performance Bond or file a claim against the supplier.
- 26.4 If Penalty is levied as per the Order terms & conditions; BYPL will raise Invoice of the penalty amount along with applicable GST rates. Accordingly, after setting off the penalty Invoice amount, net payment shall be made.

27.0 Variation in Taxes, Duties & Levies

- 27.1 The total order value shall be adjusted on account of any variations in Statutory Levies imposed by Competent Authorities by way of fresh notification(s) within the stipulated delivery period only. In case of reduction in taxes, duties and levies, the benefits of the same shall be passed on to BUYER.
- 27.2 No other Taxes, Duties & Levies other than those specified above will be payable by BUYER except in case of new Levies, Taxes & Duties imposed by the Competent Authorities by way of fresh notification(s) subsequent to the issue of PURCHASE ORDER but within the stipulated delivery period.
- 27.3 Notwithstanding what has been stated above, changes in Taxes, Duties & Levies shall apply only to that portion of PURCHASE ORDER not executed on the date of notification by Competent Authority. Further, changes in Taxes, Duties & Levies after due date of Delivery shall not affect PURCHASE ORDER Terms and Value.

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27.4 PURCHASE ORDER value shall not be subject to any variation on account of variation in Exchange rate(s).

28.0 Taxes & Duties on raw materials & bought out components

28.01 Taxes & Duties on raw materials & bought out components are included in Order Value and are not subject to any escalation or variation for any reason whatsoever.

28.02 Taxes & Duties on raw materials & bought out components procured indigenously are included in Order Value and are not subject to any escalation or variation for any reason whatsoever.

29.0 Force Majeure

29.01 General

An "Event of Force Majeure" shall mean any event or circumstance not within the reasonable control directly or indirectly, of the Party affected, but only if and to the extent that:

- (i) Such event or circumstance materially and adversely affects the ability of the affected Party to perform its obligations under this Contract, and the affected Party has taken all reasonable precautions, due care and reasonable alternative measures in order to prevent or avoid the effect of such event on the affected party's ability to perform its obligations under this Contract and to mitigate the consequences thereof.
- (ii) For the avoidance of doubt, if such event or circumstance would not have materially and adversely affected the performance of the affected party had such affected party followed good industry practice, such event or circumstance shall not constitute force majeure.
- (iii) Such event is not the direct or indirect result of the failure of such Party to perform any of its obligations under this Contract.
- (iv) Such Party has given the other Party prompt notice describing such events, the effect thereof and the actions being taken in order to comply with above clause.

29.02 Specific Events of Force Majeure subject to the provisions of above clause, Events of Force Majeure shall include only the following to the extent that they or their consequences satisfy the above requirements :

- (i) The following events and circumstances :
 - a) Effect of any natural element or other acts of God, including but not limited to storm, flood, earthquake, lightning, cyclone, landslides or other natural disasters.
 - b) Explosions or fires
- (ii) War declared by the Government of India.
- (iii) Dangers of navigation, perils of the sea.

Note: Causes like power breakdown/strikes, accidents etc do not fall under Force Majeure.

29.03 Notice of Events of Force Majeure If a force majeure event prevents a party from performing any obligations under the Contract in part or in full, that party shall:

- i) Immediately notify the other party in writing of the force majeure events within 7(seven) working days of the occurrence of the force majeure event
- ii) Be entitled to suspend performance of the obligation under the Contract which is affected by force majeure event for the duration of the force majeure event.
- iii) Use all reasonable efforts to resume full performance of the obligation as soon as practicable
- iv) Keep the other party informed of all such efforts to resume full performance of the obligation on a regular basis.

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v) Provide prompt notice of the resumption of full performance or obligation to the other party.

29.04 Mitigation of Events of Force Majeure Each Party shall:

- (i) Make all reasonable efforts to prevent and reduce to a minimum and mitigate the effect of any delay occasioned by an Event of Force Majeure including recourse to alternate methods of satisfying its obligations under the Contract;
- (ii) Use its best efforts to ensure resumption of normal performance after the termination of any Event of Force Majeure and shall perform its obligations to the maximum extent practicable as agreed between the Parties; and
- (iii) Keep the other Party informed at regular intervals of the circumstances concerning the event of Force Majeure, with best estimates as to its likely continuation and what measures or contingency planning it is taking to mitigate and or terminate the Event of Force Majeure.

29.05 Burden of Proof In the event that the Parties are unable in good faith to agree that a Force Majeure event has occurred to an affected party, the parties shall resolve their dispute in accordance with the provisions of this Agreement. The burden of proof as to whether or not a force majeure event has occurred shall be upon the party claiming that the force majeure event has occurred and that it is the affected party.

29.06 Termination for Certain Events of Force Majeure. If any obligation of any Party under the Contract is or is reasonably expected to be delayed or prevented by a Force Majeure event for a continuous period of more than 3 months, the Parties shall promptly discuss in good faith how to proceed with a view to reaching a solution on mutually agreed basis. If a solution on mutually agreed basis cannot be arrived at within a period of 30 days after the expiry of the period of three months, the Contract shall be terminated after the said period of 30 days and neither Party shall be liable to the other for any consequences arising on account of such termination.

The Purchaser may terminate the contract after giving 7 (seven) days' notice if any of following occurs:

- i. Bidder fails to complete execution of works within the approved schedule of works, terms and conditions.
- ii. In case the Bidder commits any Act of Insolvency, or adjudged insolvent
- iii. Has abandoned the contract
- iv. Has failed to commence work or has suspended the progress of works
- v. Has failed to proceed the works with due diligence and failed to make such due progress

29.07 Limitation of Force Majeure event. The Supplier shall not be relieved of any obligation under the Contract solely because cost of performance is increased, whether as a consequence of adverse economic consequences or otherwise.

29.08 Extension of Contract Period due to Force Majeure event The Contract period may be extended by mutual agreement of Parties by way of an adjustment on account of any period during which an obligation of either Party is suspended due to a Force Majeure event.

29.09 Effect of Events of Force Majeure. Except as otherwise provided herein or may further be agreed between the Parties, either Party shall be excused from performance and neither Party shall be construed to be in default in respect of any obligations hereunder, for so long as failure to perform such obligations shall be due to and event of Force Majeure."

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29.10 Severability

If any provision of this Agreement is or becomes invalid or unenforceable by the courts of any jurisdiction to which it is subject, such invalidity or unenforceability shall not prejudice the remaining provisions of this Agreement, which shall continue in full force and effect.

30.0 Transfer and Sub-Letting

30.01 The Supplier shall not sublet, transfer, assign or otherwise part with the Contract or any part thereof, either directly or indirectly, without prior written permission of the Purchaser.

31.0 Recoveries

31.01 Whenever under this contract any money is recoverable from and payable by the bidder, the purchaser shall be entitled to recover such sum by appropriating in part or in whole by detecting any sum due to which any time thereafter may become due from the supplier in this or any other contract. Should the sum be not sufficient to cover the full amount recoverable the bidder shall pay to the purchaser on demand the remaining balance.

32.0 Waiver

32.01 Failure to enforce any condition herein contained shall not operate as a waiver of the condition itself or any subsequent breach thereof.

33.0 Indemnification

33.01 Notwithstanding contrary to anything contained in this RFQ, Supplier shall at his costs and risks make good any loss or damage to the property of the Purchaser and/or the other Supplier engaged by the Purchaser and/or the employees of the Purchaser and/or employees of the other Supplier engaged by the Purchaser whatsoever arising out of the negligence of the Supplier while performing the obligations under this contract.

34.00 Termination for convenience of Purchaser

34.1 Purchaser at its sole discretion may terminate the contract by giving 30 days prior notice in writing or through email to the Supplier. Purchaser shall pay the Supplier for all the supplies/ services rendered till the actual date of contract termination against submission of invoice by the Supplier to that effect.

34.2 Payment of such compensation is the sole and exclusive remedy of the supplier for termination of this Agreement by Purchaser hereunder and the supplier shall not be entitled to, and hereby waives, claims for lost profits and all other damages and expenses.

34.3 Supplier hereby agrees that substantiation for settlement of any claims submitted by supplier shall be complete and in sufficient detail to allow Purchaser's evaluation. Terminate all sub contracts except those have been/ to be assigned to the Purchaser all rights, titles and benefits of the Suppliers/Vendor as the case may be.

35.00 Documentation

35.01 The Bidder shall procure all equipment from BYPL approved sources as per attached specifications. The Bidders shall submit copies of Material/Type Test Certificates, O&M Manuals, and Approved &

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As-built drawings, related to various equipment. The Bidder's shall ensure the strict compliance with the specifications and Field Quality Procedures issued by BYPL.

36.0 Transit Insurance

36.01 Transit Insurance shall be arranged by the Bidder.

36.02 DAMAGE / LOSS OF CARGO IN TRANSIT: Vendor shall be solely responsible for coordinating with the concerned insurance company for procuring insurance for material and/or Goods, processing claim lodgment and settlement. Notwithstanding the insurance cover, in case of loss / damage to material and/or Goods, in any manner and for any cause whatsoever, Vendor shall cause the damaged cargo to be replaced and delivered to the Purchaser with new material and/or Goods within 30 days of such loss / damage. The Vendor shall be solely responsible for all expenses in relation to the replacement and delivery in such circumstances.

37.0 Limitation of Liability

37.01 Except for willful misconduct or gross negligence, neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or any other indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract. The total liability of the Supplier to the Purchaser under the Contract shall not exceed the Contract Value. Except that this Clause shall not limit the liability of the Supplier:

- (a) In cases of fraud, willful misconduct or illegal or unlawful acts, or
- (b) In cases of acts or omissions of the Supplier which are contrary to the most elementary rules of diligence which a conscientious Supplier would have followed in similar circumstances.

38.0 Liability of Suppliers

38.1 Subject to the due discharge of its obligations under the Contract and except in case of gross negligence or willful misconduct on the part of the Supplier or on the part of any person acting on behalf of the Supplier, with respect to any loss or damage caused by the Supplier to the Purchaser's property or the Site, the Supplier shall not be liable to the Purchaser for the following:

- (a) For any indirect or consequential loss or damage; and
- (b) For any direct loss or damage that exceeds:
 - (i) The total payments made and expected to be made to the Supplier under the Contract including reimbursements, if any; or
 - (ii) The insurance claim proceeds which the Supplier may be entitled to receive from any insurance purchased by the Supplier to cover such a liability, whichever is higher.

38.2 This limitation of liability shall not affect the supplier's liability, if any, for damage to third party property or injury or death of a person due to negligence of the Contractor or any Person or firm acting on behalf of the supplier in executing the order.

38.3 Notwithstanding anything contained in the Contract, the Supplier shall not be liable for any gross negligence or willful misconduct on the part of the Purchaser or any of its affiliates, any vendor, or any party, other than Supplier and/or, its directors, officers, agents or representatives or its affiliates, or SubSupplier, or the vendor or any third party engaged by it.

38.4 Notwithstanding anything contained in the Contract, including but not limited to approval by the Purchaser of any drawings, documents, vendor list, supply of information or data or the participation of the Purchaser in any meeting and/or discussion or otherwise, shall not absolve the Supplier from

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any of its liabilities or responsibilities arising in relation to or under the Contract.

39.0 Intellectual Property Rights and Royalties

- 39.1 The Supplier shall indemnify the Purchaser and the Purchaser's Representative from and against all claims and proceedings on account of infringement (or alleged infringement) of any patent rights, registered designs, copyright, design, trademark, trade name, know-how or other intellectual property rights (hereinafter collectively referred to as "**Intellectual Property Rights**") in respect of the Works, Supplier's Equipment, machines, Works method, Plant, Materials, or anything whatsoever required for the execution of the Works and from and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto. In the event of infringement of any Intellectual Property Rights of any third party as a result of the execution of the Works (or any part thereof) by the Supplier, the Supplier shall rectify, modify or replace, at its own cost, the Works, Plant or Materials or anything whatsoever required for the Works so that infringement ceases to exist or, in the alternative, the Supplier shall procure necessary rights/ licenses from the affected third party so that there is no infringement of Intellectual Property Rights.
- 39.2 The Supplier shall be promptly notified of any claim made against the Purchaser. The Supplier shall, at its cost, conduct negotiations for the settlement of such claim, and any litigation or arbitration that may arise from it. The Purchaser or the Purchaser's Representative shall not make any admission which might be prejudicial to the Supplier, unless the Supplier has failed to take over the conduct of the negotiations, litigation or arbitration within a reasonable time after having been so requested. In the event of Supplier failing to act at the Purchaser's Representative's notice, the Purchaser shall be at full liberty to deduct any such amount of pending claim from any amount due to the Supplier under the Contract or any other contract and the balance portion of claim shall be treated as debt due from the Supplier.
- 39.3 All Intellectual Property Rights in respect of any Plant, Materials, Drawings and Designs, plans, documents, specifications, data, materials, know how, charts, information, etc., provided to the Supplier by the Purchaser pursuant to this Contract for the execution of the Works, belongs to and shall continue to belong to the Purchaser and the Supplier shall not have any rights in the same other than the limited right for its use for the purpose of execution of the Works.
- 39.4 Intellectual Property Rights in respect of any Plant, Materials, Drawings and Designs, plans, calculations, drawings, documents, know-how and information relating to the Works which are proprietary to the Supplier and/ or its third party licensors ("**Supplier's IPR**") shall continue to vest with the Supplier and/ or its third party licensors and the Supplier shall grant and/ or procure from its third party licensors, at its own cost, a worldwide, perpetual, royalty free, non-exclusive license (along with the right to sub-license) to use and reproduce such Supplier's IPR for the use, operation, maintenance and repair of the Works.
- 39.5 If any patent, trademark, trade name, registered design or software is developed by the Supplier or its SubSupplier specifically for the execution of the Works, then all Intellectual Property Rights in respect of such design, trademark, trade name or software shall be the absolute property of the Purchaser and shall not be utilized or retained by the Supplier (or its SubSuppliers) for any purpose other than with the prior written consent of the Purchaser.
- 39.6 If the Supplier uses proprietary software (whether customized or off the shelf) for the purpose of storing or utilizing records in relation to the Works, the Supplier shall obtain at its own expense, the grant of a worldwide, royalty-free, perpetual licence or sublicense (including the right to sublicense) to use such software, in favour of the Purchaser provided that the use of such software under the licence or the sublicense may be restricted to use any such software only for the design, construction,

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reconstruction, manufacture, installation, completion, reinstatement, extension, repair and operation of the Works or any part thereof.

- 39.7 If any software is used by the Supplier for the execution of the Works over which the Supplier or a third party holds pre-existing title or other rights, the Supplier shall obtain for the Purchaser, a worldwide, royalty free, perpetual license for the right to use and apply that software (together with any modifications, improvements and developments thereof).

40.0 Acceptance

- 40.01 Vendor confirms to have gone through the Policy of BYPL on legal and ethical code required to be followed by vendors encapsulated in the "Vendor Code of Conduct" displayed on the official website of BYPL (www.bsesdelhi.com) also, which shall be treated as a part of the contract/PO/WO. Vendor undertakes that he shall adhere to the Vendor code of Conduct and also agrees that any violation of the Vendor Code of Conduct shall be treated as breach of the contract/PO/WO. In event of any such breach, irrespective of whether it causes any loss/damage, Purchaser (BYPL) shall have the right to recover loss/damage from Vendor. The Contractor/Vendor hereby indemnifies and agrees to keep indemnified the Purchaser (BYPL) against any claim/litigation arising out of any violation of Vendor Code of Conduct by the Contractor/Vendor or its officers, agents & representatives etc.
- 40.02 Acceptance of the CONTRACT implies and includes acceptance of all terms and conditions enumerated in the CONTRACT in the technical specification and drawings made available to Contractor consisting of general conditions, detailed scope of work, detailed technical specification, detailed equipment drawing and complete scope of work.
- 40.03 Contractor and Company contractual obligation are strictly limited to the terms set out in the CONTRACT. No amendments to the concluded CONTRACT shall be binding unless agreed to in writing for such amendment by both the parties.
- 40.04 We expect your services and supplies are aligned to our Vision, Mission and Values. Please refer to the following link to know about our Vision, Mission and Values; <https://www.bsesdelhi.com/web/bypl/about-bses>.

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QUANTITY AND DELIVERY REQUIREMENTS

Sl. No.	BYPL SAP Code	Item Description	Specification	Total Qty. (Meter)	Tentative Delivery Schedule	Destination
1	2100003598	CBL,PWR,1000MM2;1C;66 KV;AL	BSES-TS-40-1C66-R0	21,000	11 km per month	BYPL Stores Delhi
2	2100004701	CBL,PWR,630MM2;1CORE ;66KV;AL		1,000	1 km per month	

The delivery schedule shown above is tentative. PO(s) will be released as per the actual requirement. However, supplier has to deliver the material within the delivery schedule provided.

Schemes may be executed in a phased manner.

BSES

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APPENDIX II

FORMAT OF PERFORMANCE BANK GUARANTEE **(To be executed on a Non-Judicial Stamp Paper of appropriate value)**

This Guarantee made at _____ this [____] day of [____] 20XX

1. WHEREAS M/s BSES Yamuna Power Limited, a Company incorporated under the provisions of Companies Act, 1956 having its Registered Office at Shaktikiran Building, Karkardooma, Delhi 110032, India hereinafter referred to as the " Owner ", (which expression shall unless repugnant to the context or meaning thereof include its successors, administrators, executors and assigns).
2. AND WHEREAS the Owner has entered into a contract for _____(Please specify the nature of contract here) vide Contract No. _____ dated _____(hereinafter referred to as the "Contract") with M/s._____, (hereinafter referred to as "the Supplier", which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include each of their respective successors and assigns) for providing services on the terms and conditions as more particularly detailed therein.
3. AND WHEREAS as per clause ____of conditions of Contract, the Suppliers are obliged to provide to the Owners an unconditional bank guarantee for an amount equivalent to ten percent (10%) of the total Contract Value for the timely completion and faithful and successful execution of the Contract from [_____] *pl. specify the name of Bank*) having its head/registered office at [_____] through its branch in _____(*pl. specify the name of Branch through which B.G is issued*) hereinafter referred to as "the Bank", (which expression shall unless it be repugnant to the context or meaning thereof be deemed to include its successors and permitted assigns).
4. NOW THEREFORE, in consideration inter alia of the Owner granting the Suppliers the Contract, the Bank hereby unconditionally and irrevocably guarantees and undertakes, on a written demand, to immediately pay to the Owner any amount so demanded (by way of one or more claims) not exceeding in the aggregate [Rs.].....(*in words*) without any demur, reservation, contest or protest and/or without reference to the Supplier and without the Owner needing to provide or show to the Bank ,grounds or reasons or give any justification for such demand for the sum/s demanded.

5. The decision of the Owner to invoke this Guarantee and as to whether the Supplier has not performed its obligations under the Contract shall be binding on the Bank. The Bank acknowledges that any such demand by the Owner of the amounts payable by the Bank to the Owner shall be final, binding and conclusive evidence in respect of the amounts payable by the Supplier to the Owner. Any such demand made by the Owner on the Bank shall be conclusive and binding, notwithstanding any difference between the Owner and the Supplier or any dispute raised, invoked, threatened or pending before any court, tribunal, arbitrator or any other authority.
6. The Bank also agrees that the Owner at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor without proceeding against the Suppliers notwithstanding any other security or other guarantee that the Owner may have in relation to the Supplier's liabilities.
7. The Bank hereby waives the necessity for the Owner first demanding the aforesaid amounts or any part thereof from the Suppliers before making payment to the Owner and further also waives any right the Bank may have of first requiring the Owner to use its legal remedies against the Suppliers, before presenting any written demand to the Bank for payment under this Guarantee.
8. The Bank's obligations under this Guarantee shall not be reduced by reason of any partial performance of the Contract. The Bank's obligations shall not be reduced by any failure by the Owner to timely pay or perform any of its obligations under the Contract.
9. The Bank further unconditionally and unequivocally agrees with the Owner that the Owner shall be at liberty, without the Bank's consent and without affecting in any manner its rights and the Bank's obligation under this Guarantee, from time to time, to:
 - (i) vary and/or modify any of the terms and conditions of the Contract;
 - (ii) Forebear or enforce any of the rights exercisable by the Owner against the Suppliers under the terms and conditions of the Contract; or
 - (iii) Extend and/or postpone the time for performance of the obligations of the Suppliers under the Contract;

and the Bank shall not be relieved from its liability by reason of any such act or omission on the part of the Owner or any indulgence shown by the Owner to the Suppliers or any other reason whatsoever which under the law relating to sureties would, but for this provision, have the effect of relieving the Bank of its obligations under this Guarantee.

10. This Guarantee shall be a continuing bank guarantee and shall not be discharged by any change in the constitution or composition of the Suppliers, and this Guarantee shall not be affected or discharged by the liquidation, winding-up, bankruptcy, reorganization, dissolution or insolvency of the Suppliers or any of them or any other circumstances whatsoever.
11. This Guarantee shall be in addition to and not in substitution or in derogation of any other security held by the Owner to secure the performance of the obligations of the Suppliers under the Contract.
12. NOTWITHSTANDING anything herein above contained, the liability of the BANK under this Guarantee shall be restricted to _____ *(insert an amount equal to ten percent (10%) of the Contract Value)* and this Guarantee shall be valid and enforceable and expire on _____ *(pl. specify date)* or unless a suit or action to enforce a claim under this Guarantee is filed against the Bank on or before the date of expiry.
13. On termination of this Guarantee, all rights under the said Guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities hereunder.
14. The Bank undertakes not to revoke this Guarantee during its validity except with the prior written consent of the Owner and agrees that any change in the constitution of the Bank or the Suppliers shall not discharge our liability hereunder.
15. This Guarantee shall be governed by the laws of India. Any suit, action, or other proceeding arising out of, connected with, or related to this Guarantee or the subject matter hereof shall be subject to the exclusive jurisdiction of the courts of **Delhi**, India.

Dated this day of 20XX at

(Signature)

.....

(Name)

.....

(Designation with Bank Stamp)

Attorney as per

Power of Attorney No.....

Date.....

BYPL BANK DETAIL WITH IFSC CODE:

1. Name of the Bank: Axis Bank Limited
2. Branch Name & Full Address: C-58, Basement & Ground Floor, Preet Vihar, Main Vikas Marg,
New Delhi 110092
3. Branch Code: 055
4. Bank Account No: 911030003596085
5. IFSC Code: UTIB0000055
6. Swift Code: AXISINBB055

BSEES

FORMAT OF WARRANTY/GUARANTEE CERTIFICATE

BSES YAMUNA POWER LIMITED Shaktikiran Building, Karkardooma, Delhi -110032.

Ref. Purchase Order No. :

Dear Sir,

We hereby confirm that the.....dispatched to BSES YAMUNA POWER LTD vide invoice no.....
DT.....is exactly of the same nature and description as per above mentioned Purchase Order.

We further confirm that we will replace/repair our.....free of cost If found any manufacturing defect
during.....months from the date of dispatch of material or.....months from the date of commissioning
whichever is earlier.

Vendors Name & Signature

UNDERTAKING GST

The Vendor shall give an undertaking in the following words on each invoice in the absence of which tax
payment as on the Vendor's invoice may be withheld.

"The tax component as mentioned in the invoice shall be deposited with GST Department as per law by
way of actual payment or by way of legal set off as per law. The turnover billed shall be duly declared in
my GST returns a copy of which shall be filed with the Purchaser. Should the input tax credit to the
Purchaser be denied by way of any lapse on the part of the Vendor, the same shall be paid on demand and
in any case the Purchaser is authorized to deduct the tax equivalent amount from the amount payable to
the Vendor"

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SUMMARY OF COMMERCIAL TERMS AND CONDITIONS - SUPPLY

SI No	Item Description	AS PER BYPL	BIDDER'S CONFIRMATION
1	Validity	120 days from the date of submission of bid	
2	Price basis	a) "Firm" , FOR Delhi store basis. Prices shall be inclusive of all taxes & duties, freight upto Delhi stores/sites. b) Unloading at stores/sites shall be in vendor's scope c) Transit insurance in Bidders scope	
3	Payment terms	100% payment shall be paid within 45 days from the date of receipt and acceptance of GOODS at store/site against submission of documents.	
4	Delivery Schedule	Transmittal Approval Documents (GTP/Drawings/QAP/etc) are to be submitted within 10 days to the concerned official in BYPL for approval. BYPL shall approve/provide comments on the submitted drawings within 7 days of first submission. In case resubmission is required, it shall be completed by the supplier within next 5 days. The timelines for approval by BYPL shall be 5 days in case of every resubmission. However, repetitive submissions are not desirable. Delivery shall be completed within 10 Weeks from the LOI/PO date or completion as per the schedule.	
5	Defect Liability period	66 months from the date of receipt of each unit at store(s)/site(s), whichever is earlier	
6	Penalty for delay	1% (One) of the basic value (ex-works value) of undelivered units per week of delay or part thereof, subject to maximum of 10% (Ten) of the total basic value (ex-works value) of undelivered units.	
7	Performance Bank Guarantee	To be submitted within twenty-eight (28) days from the date of issuance of the Letter of Intent/Award/RC. Bidder shall initially submit the performance bank guarantee (PBG) equivalent to 1% of RC Value (including GST) valid till RC validity period plus three months claim period. Upon receipt of the PBG by BYPL against RC, the EMD shall be released. Thereafter bidder shall submit PBG on Purchase Order (PO) basis equivalent to 10% of the PO value (including GST) valid for a period of 30 months from the date of last receipts at site/stores plus 3 months claim period.	



VOLUME – II

PRICE BID FORMAT

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ALL PRICES IN INR (₹)

S. No.	DESCRIPTION OF GOODS	HSN CODE (8 Digit Mandatory)	UoM	QTY (A)	UNIT BASIC PRICE INCL FREIGHT (₹) (B)	UNIT GST & CESS AS APPLICABLE (CGST & SGST/UTGST or IGST) (₹) (C)		UNIT LANDED RATE (All Inclusive) (₹) (D = B+C)	TOTAL LANDED VALUE (₹) (E = DXA)
						%	AMT		
1	SUPPLY OF 66KV XLPE INSULATED ALUMINIUM CONDUCTOR POWER CABLE OF SIZE 1CX1000 MM ²		Meter	21,000					
2	SUPPLY OF 66KV XLPE INSULATED ALUMINIUM CONDUCTOR POWER CABLE OF SIZE OF SIZES 1CX630 MM ²		Meter	1,000					
GRAND TOTAL LANDED VALUE (₹)									
In words									

NOTE: Cost of all tests as per technical specification is to be included. No separate charges will be paid.

The Un-priced bid should be marked as **"Quoted"** and to be submitted with Part – A

We declare that the following are our quoted prices in INR for the entire packages.

Date:

Bidders Name:

Place:

Bidders Address:

Signature:

Designation:

Printed Name:

Common Seal:

VOLUME – III

TECHNICAL SPECIFICATIONS

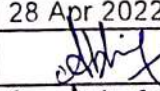
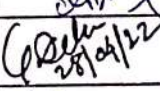
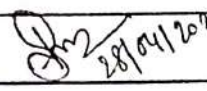


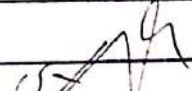



Technical Specification

For

66kV, Single core Cable

Specification no – BSES-TS-40-1C66-R0

Rev.		0
No. of Pages		31
Date		28 Apr 2022
Prepared by	Abhishek Vashista	
	Gautam Deka/ Pronab Bairagi	 28/04/22  28/04/2022
Reviewed by	Puneet Duggal	
	Amit Tomar	
Approved by	Gaurav Sharma	
	Gopal Nariya	

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TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE**1.0 SCOPE**

The scope of supply includes Design, Manufacture, testing at manufacturer's works before dispatch, packing, delivery including unloading and stacking of 66kV Single Core cable complete with all accessories at site/store.

2.0 STANDARDS & CODES

Materials, equipment and methods used in the manufacture of Cable shall conform to the latest edition of following:

S No.	STANDARD	DESCRIPTION
2.1	IS-8130	Conductor for insulated electric cables & flexible cords
2.2	IS-5831	PVC insulation and sheath of electric cables
2.3	IS-3975	Mild steel wires strips and tapes for armoring cables
2.4	IS-5216	Guide for safety procedures and practices in electrical works
2.5	IS-7098 (Part – III)	Cross-linked polyethylene insulated thermoplastic sheathed cables specification.
2.6	IS – 10810	Methods of test of cables
2.7	IEC-60811	Common test methods for insulating and sheathing materials of electric cables and optical cables
2.8	IEC-60228	Conductor for insulated cables
2.9	IEC-60840	Power cable with extruded insulation and their accessories for rated voltage above 30kV up to 150kV- Test methods and requirements

3.0 SERVICE CONDITIONS

Cables to be supplied against this specification shall be suitable for satisfactory operation under the following service conditions-

3.1	Average grade atmosphere	Heavily polluted, Dry
3.2	Maximum altitude above sea level	1000M
3.3	Relative Humidity	100%
3.4	Ambient air temperature	Highest 50 Deg C Average 40 Deg C Minimum 0 Deg C
3.5	Operating temperature	0 Deg C - 50 Deg C
3.6	Rainfall	750mm concentrated in four months

TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE**4.0 DESIGN FEATURES**

S No.	Parameters	Technical Requirements	Offered by Vendor
4.1.0	Manufacturing process	The cable shall be manufactured by “Triple head extrusion process”. The conductor screen, Insulation & Insulation screen shall be co-extruded by onetime process to ensure homogeneity and reduction of voids in the insulation and the screening system of the cable, whereby enhancing the life of the cable. The cable shall be strictly manufactured by “DRY CURE and DRY COOLING ” process.	
4.2.0	Conductor	Electrolytic grade aluminum conductor shall consist of flexibility class-2 in accordance with IS 8130/IEC 60228. The shape of conductor shall be compacted, stranded, and circular.	
4.3.0	Longitudinal water sealing of conductor	Shall be achieved by water swelling fibers in the interstices of the conductor. The fibers shall turn into jelly/swell, when in contact with water making the conductor water tight.	
4.4.0	Semi conducting separator tape	Semi-conducting separator tapes shall be applied over the conductor, suitable for continuous operating conductor temperature of 90°C.	
4.5.0	Conductor screen	The conductor screen shall consist of extruded semi-conducting compound which shall be fully compatible with the conductor and extruded insulation. Outer surface of semiconductor screen shall be super smooth, cylindrical and firmly bonded to the overlaying insulation.	
4.6.0	Insulation	The extruded WTR - XLPE insulation shall be of very high degree of purity. The average thickness shall not be less than nominal value as given in annexure “B”. The minimum thickness at any point shall not be less by more than 10% of the nominal value. Percentage eccentricity of the insulation shall not be more than 10%.	
4.7.0	Insulation Screen	The insulation screen shall consist of extruded semi-conducting compound which shall be fully compatible with extruded insulation. Insulation screen shall be firmly bonded to the insulation.	

TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE

S No.	Parameters	Technical Requirements	Offered by Vendor
4.8.0	Make of insulation and semi conducting screen	For Insulation: WTR-XLPE of Dow/Borealis/Hanwa For Conductor & Insulation Screen: Semiconducting compound of Dow/Borealis/Hanwa Any deviation to above shall not be acceptable.	
4.9.0	Core	The ovality of the core shall not be more than 5%.	
4.10.0	Inner Longitudinal water sealing bedding	Semi-conducting water swell-able tapes shall be applied over the extruded semi-conducting insulation screening with a minimum overlap of 10%.	
4.11.0	Metal screening (if required to meet the short circuit rating)	The metallic screen shall consist of a layer of copper tape applied in helical form. Copper tape overlap: Minimum 10%	
4.12.0	Outer Longitudinal water sealing bedding (if metallic screening is provided)	Semi-conducting water swell-able tapes shall be applied over the metallic screen again with a minimum overlap of 10%.	
4.13.0	Metallic sheath	The metallic sheath shall be made of Corrugated aluminum sheathing with minimum thickness of 1.75mm and nominal thickness of 1.8mm, provided with high-viscosity bitumen-based compound coating, in conjunction with textile tape as carrier material for corrosion protection of the outer surface of corrugated aluminium sheathing. Further the corrugations shall be filled with compatible filler material to provide smooth round surface over the aluminium corrugated sheathing, so as to prevent ingress / traveling of water along the corrugations	
4.14.0	Outer Sheath	The outer sheath shall consist of extruded black colored HDPE type ST-7 with anti-termite protection. The Minimum thickness shall be 3.3 mm at any point. Nominal Thickness shall be 4 mm. Carbon black content shall be 2.5 ±0.5%	
4.15.0	Semi conductive layer over the	Extruded Semi conductive layer shall be either extruded or graphite coating.	

TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE

	outer sheath		
4.16.0	Cable Rating	The cable size shall be suitable to carry rated load current on 66 kV continuously without exceeding the maximum conductor temperature of 90 ⁰ C.	
4.17.0	Drum Length	500 meter +/- 5% (short lengths not acceptable except the last length and minimum acceptable short length shall be 250 meters.). The Overall tolerance - 2 % for the total cable length of the entire order Manufacturer shall not be allowed to put two cable pieces of different short length in same cable drum.	
4.18.0	Embossing	<p>The extruded outer sheath shall be embossed with meter marking at interval of 1 meter. Meter marking shall start from zero in every drum.</p> <p>The "A" end meter marking and "Z" end meter marking and the drum lengths shall be printed on the drum flange along with other markings.</p> <p>The outer sheath shall also be embossed with (min.)</p> <ul style="list-style-type: none">a) Voltage designationb) Type of construction/cable code (e.g.A2X2Y)c) Number of core and nominal cross sectional area.d) Type of cable "Electric Cable"e) Manufacturers name & trademarkf) Name of buyer (e.g.BSES)g) Month & year of manufacturingh) Batch no / Lot no.i) Sequential length markingj) Purchase order number & datek) ISI markl) Individual Drum number <p>Progressive sequential marking shall be start at zero for each drum</p>	
4.19.0	Joints and Terminations	The Joints and Terminations to be offered with the cable shall be fully type tested as per IS 60840. The Joints and Terminations shall match all technical performance parameters of the specified cable. The Joints and Terminations would be either Heat Shrink or Cold-Shrink.	

TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE**5.0 INSPECTION & TESTING**

S No.	Parameters	Technical Requirements	Offered by Vendor
5.1.0	Type test	<p>The cable and the associated accessories like Joints and terminations of same voltage, design and number of cores shall be Type Tested from CPRI/ERDA as per IEC 60840/IS7098 (part-3) with latest amendments.</p> <p>Type test report (from CPRI/ERDA only) of not more than five (5) years old shall be submitted for the same type, size and voltage rating of the cable offered, along with the bid to qualify in the tender.</p> <p>All type tests shall be carried out in accordance with IEC-60840 / IS 7098 (part-3) and in accordance with the sequence prescribed therein.</p> <p><u>Type Test Required After Award of PO:</u> Type test on one cable drum of each type/rating from any lot shall be conducted at CPRI/ERDA on sample basis as per relevant IS/IEC. Sample shall be sealed by BSES during inspection of cable. This type test is applicable subject to BSES requirement and cost shall be borne by BSES</p>	
5.2.0	Routine test	<p>a) Each drum length of cable shall be subjected to the tests as mentioned in IEC 60840, IS 7098 (Part-3), IEC 60229 and IS 10810</p> <p>b) Impulse voltage test of one drum and Physical dimension of each and every layer along with component.</p>	
5.3.0	Acceptance Tests	<p>The sampling & acceptance tests shall be conducted as per IEC: 60840 / IS: 7098 (Part-3) and approved BSES QA plan for each lot of cable during the inspection of lot at manufacturer's works.</p>	

TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE

5.4.0	Special tests	The following tests shall be carried out as special tests a) Conductor examination as per IEC-60840 for conformance of IEC 60228/IS 8130. b) Measurement of thickness of insulation as per Clause 10.6 of IEC- 60840 and Clause 8 of IEC-60811-1-1./ IS 10810 part 6 c) Void and contamination as per IS 7098 (Part-3) d) Sheath Integrity Test e) Carbon black content test in Inner sheath & Outer Sheath f) Hot set test for TR-XLPE insulation as per Clause 10.9 of IEC-60840/ IS 10810 Part 30	
5.5.0	Inspection	The buyer reserves the right to inspect cables at the Seller's works at any time prior dispatch, to verify compliance with the specifications. In-process and final inspection call intimation shall be given in 10 days advance to purchaser. In the event of any discrepancy in the test reports i.e. test reports not acceptable or any type tests(including special /additional tests, if any) not carried out , same shall be carried out without any cost implication to BSES before dispatch of cable.	
5.6.0	Test certificates	Three sets of complete test certificates shall be submitted along with the dispatch documents.	

6.0 SHIPPING, HANDLING & SITE SUPPORT

6.1.0	Packing	The cable shall be wound on non-returnable steel drums of suitable size of minimum hub diameter of 20D (where D is the overall diameter of the cable) and packed conforming to international standards. The drum shall be fully enclosed by suitable packing preferably PP sheeting. Cable shall have sea worthy packing in case cables are dispatched by shipping lines.
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TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE

6.2.0	Pulling eye & sealing of Cable ends	A cable pulling eye shall be provided at “Z” end of cable on each drum. Suitable fillings/putty shall be used for sealing gap between outer sheath and pulling eye. Heat shrinkable sleeves with the pulling eye shall also be provided. The pulling eye shall be directly connected to the conductor and be capable to withstand a tensile load of 30N/mm ² of conductor area. The “A” end of the cable shall be sealed with filling material/putty and heat shrinkable cap. Drawing of the pulling eye shall be submitted along with the bid for review.
6.3.0	Drum identification label	The following information shall be marked on the drum: The following information shall be marked on the drum: a) Drum identification number b) Trade name or trade mark; if any c) Name of manufacturer d) Name of buyer i.e. BSES e) Nominal sectional area of the conductor of the cable f) Type of cable and voltage for which it is suitable g) Length of the cable on the drum, with “A” end and “Z” end markings h) Purchase order number with SAP item code i) Year and month of manufacturing j) Direction of rotation of drum (an arrow) k) Net weight of cable in drum and gross weight of cable with drum l) Batch no or Lot no.
6.4.0	Shipping	The seller shall give complete shipping information concerning the gross weight, size of each packing.
6.5.0	Handling & Storage	Manufacturer instruction shall be followed. Detail handling & storage instruction sheet/manual needs to be furnished before commencement of supply.
6.6.0	Transit damage	The seller shall be responsible for any transit damage due to improper packing.

7.0 DEVIATIONS

7.1	Deviation	Deviations from this Specification shall be stated in writing with the tender by reference to the Specification clause/GTP/Drawing and a description of the alternative offer. In absence of such a statement, it will be assumed that the bidder complies fully with this specification.
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TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE**Annexure – A****Scope, Documentation and Delivery schedule**

Document/Drawing submission shall be as per the matrix given below:

- i. All documents/drawings shall be provided in soft copy only in returnable Pen drives
- ii. Language of the documents shall be English only.
- iii. Incomplete submission shall be liable for rejection.
- iv. Document check sheet compliance shall be the first sheet for each submission stage i.e. Technical bid, Drawing Approval, Pre Dispatch.
- v. No submission is acceptable without check list compliance.
- vi. Deficient/ improper document/ drawing submission shall be liable for rejection.
- vii. Order of documents shall be strictly as per the check list.
- viii. Any drawing not included in the below table but necessary for detailed engineering shall be deemed to be included in bidder's scope.

S No.	Description	Bid	Approval	Pre Dispatch
8.1	Guaranteed Technical Particulars (GTP)	required	required	
8.2	Deviation Sheet, if any	required	required	
8.3	Detailed cross sectional drawing of cable	required	required	
8.4	Type test reports for the offered type and rating of cable and joints & terminations	required	required	
8.5	Complete product catalogue and Manual	required	required	
8.6	Certification for quality standards	required		
8.7	Make of Raw Materials	required	required	
8.8	Cable de-rating factors	required	required	
8.9	Dimensional drawing for pulling eye & End cap		required	
8.10	Manufacturer's Quality Assurance Plan		required	
8.11	Program for production and testing		required	
8.12	Detailed installation & commissioning instructions		required	
8.13	Test certificates of all raw materials			required
8.14	Inspection and routine test reports, carried out in manufacturer's works			required

TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE**Annexure–B: Guaranteed Technical Particulars (Data by Supplier)**

S No.	Description	Unit	Data specified by the purchaser	Data to be filled by the manufacturer
1	Name of Manufacturer			
2	Country of manufacturer			
3	Type of cable			
4	Standard according to which cable is manufactured			
5	Rated voltage	kV	38/66	
6	Highest system voltage	kV	72.5	
7	System frequency	Hz	50	
8	No of phases per circuit	Nos	3	
9	System earthing		Solidly grounded	
10	Rated short time current of conductor	kA		
11	Rated short time current of metal sheath (alone)	kA		
12	Rated short time current of metal screen (if provided)	kA		
13	Rated short time current of metal sheath and screen	kA	19	
14	Duration of short circuit current	Sec	1	
15	Impulse withstand voltage 1.2/50 micro sec wave	kVp	325	
16	Power frequency withstand voltage	kV(rms)	140	
17	Conductor			
a)	Nominal cross sectional area	mm ²	1000 / 630	
b)	Type class of conductor		Compacted Stranded Circular	
c)	Material of conductor		Aluminum	
d)	Flexibility class of conductor		Class -2	
e)	Minimum numbers of strands	No.		
f)	Diameter of strands before compaction. (nominal / Minimum)	mm / mm		
g)	Material of longitudinal water sealing filling of conductor			

TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE

S No.	Description	Unit	Data specified by the purchaser	Data to be filled by the manufacturer
18	Details of semi conducting tape over the conductor			
19	Conductor Screen			
a)	Material and type			
b)	Minimum thickness	mm	0.8	
c)	Make and grade of semi conducting compound.			
20	Insulation			
a)	Material of Insulation		TR-XLPE	
b)	Nominal thickness	mm	11	
c)	Minimum thickness		9.9	
d)	Make and grade of insulation compound			
e)	Maximum dielectric stress at the conductor surface	kV/mm		
21	Insulation screen			
a)	Material and type			
b)	Minimum thickness	mm	0.8	
c)	Make and grade of semi conducting compound.			
22	Inner water swellable tape			
a)	Nominal thickness	mm	0.3	
b)	Minimum swell height in one minute.	mm	12 mm in one minute	
c)	Water swallable tape overlap	%	min 10%	
23	Copper tape required to meet the short circuit rating (if provided)			
a)	Thickness and width of copper tape	mm / mm		
24	Outer water swellable tape	mm		
a)	Nominal thickness	mm	0.3	

TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE

S No.	Description	Unit	Data specified by the purchaser	Data to be filled by the manufacturer
b)	Minimum swell height in one minute.	mm	12 mm in one minute	
c)	Overlap	%	10% min	
25	Nominal diameter under metal sheath	mm		
26	Material of the metal sheath		Corrugated aluminum(with corrosion protection& corrugation filling)	
27	Minimum thickness of Corrugated Aluminum sheath	mm	1.75	
28	Nominal radial clearance allowed under metal sheath (in case of corrugated aluminum sheathing)	mm	Vendor to provide	
29	Nominal diameter over metal sheath	mm		
30	Outer Sheath			
a)	Material and type		HDPE type ST 7	
b)	Minimum thickness	mm	3.3	
c)	Nominal thickness	mm	4	
d)	Anti termite treated?		Yes / No	
e)	Color		Black	
31	Material of semi-conductive coating/extrusion over the outer jacket			
32	AC test voltage at works for insulation.	KV(rms)	90	
33	DC test voltage at works for outer jacket.	KV (DC)	25	
34	Overall dia of completed single core cable	mm		
35	Weight per meter of complete cable	kg/m		

TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE

S No.	Description	Unit	Data specified by the purchaser	Data to be filled by the manufacturer
36	Short circuit capacities with maximum conductor temperature of 250Deg C : (conductor temperature of 90 Deg C at the commencement of short circuit) a) 0.5 second duration b) 1 second duration c) 2 second duration d) 3 second duration	kA		
37	Minimum radius of bend round: which cable can be laid a) Direct burial inground b) Inducts	mm		
38	Maximum D.C. resistance of conductor per KM at 20 ⁰ C	Ohm/km	0.0469 for 630 mm ² cable 0.0291 for 1000 mm ² cable.	
39	Maximum AC resistance of conductor per KM at 90 deg. C	Ohm		
40	Equivalent star reactance per KM of 3 phase circuit at 50 Hz	Ohm		
41	Maximum electrostatic capacitance per KM of cable	pf		
42	Maximum continuous current carrying capacity per circuit when laid in ground as per the following parameters (with screens cross bonded) -Maximum continuous conductor temperature of 900 C -Maximum conductor temperature during short circuit of 2500 C -Ground temperature of 300C -Soil resistivity of 1500C- cm/Watt -Depth of laying of 150cm	Amp		
43	Maximum continuous current carrying capacity per cable when laid in air with ambient temperature of 40 ⁰ C and other	Amp		

TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE

S No.	Description	Unit	Data specified by the purchaser	Data to be filled by the manufacturer
	parameters as per S no 42 (with screens cross bonded)			
44	Rating factors for ambient air temperature attached	Yes/No		
45	Rating factors for ground temperature attached	Yes/No		
46	Rating factors for phase spacing in flat formation attached	Yes/No		
47	Rating factors for grouping of cable laid in ground in horizontal formation attached	Yes/No		
48	Rating factors for grouping of cable laid in ground in tri-foil touching formation attached	Yes/No		
49	Rating factors for thermal resistivity of soil attached	Yes/No		
50	Rating factors for depth of laying attached	Yes/No		
51	Max.power factor of charging KVA of cable when laid direct in the ground at normal voltage frequency at conductor temperature at 90 ⁰ C			
52	Max.dielectric power loss of cable per km of 3 phase circuit laid direct in ground at normal voltage, frequency and maximum conductor temperature of 90 ⁰ C	Watt /km		
53	Sheath loss of cable per KM of 3 phase circuit at normal voltage frequency at maximum continuous current rating. a) Laid direct inground b) Drawn into ducts c) Installed in air	Watt/km		
54	Impedance per KM of 3phase circuit at 50 C/s and maximum conductor temperature. a. Impedance	Ohm		

TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE

S No.	Description	Unit	Data specified by the purchaser	Data to be filled by the manufacturer
	<ul style="list-style-type: none"> b. Reactance c. Positive and negative sequence d. Zero sequence e. Capacitance f. Conductance g. Inductive susceptance h. Conductive susceptance 			
55	Standard drum length of cable	meters	500 +/- 5% (short lengths not acceptable except the last length)	
56	The overall quantity tolerance	%		
57	Cable to be wound on non returnable steel drum.	Yes/No	Yes	
58	Normal delivery length	meters		
59	Cable pulling Eye to be provided at "Z" end A End shall be provided with sealing end cap	Yes		
60	Tensile load withstand capacity for pulling eye		30 N / mm ²	
61	Approximate shipping weight for the normal deliver length with the drum size (flange dia. in mm and width in mm)	kg		
62	Drum size and weight (Flange dia X flange width X hub dia)			
63	Embossing details on outer sheath			
64	Sequential marking at every meter		Provided	
65	Process of cross linking of polyethylene.			
66	Induced Voltage in sheath, cable			
a)	In trefoil formation	V/km		
b)	In flat formation with D+70	V/km		



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TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE

S No.	Description	Unit	Data specified by the purchaser	Data to be filled by the manufacturer
67	Cross Sectional Drawing of offered cable design with layer wise component details		To be provided by bidder	

Annexure - C**List of Sub-Vendors for critical items**

Vendor/Bidder to state sub-vendors' names for other items, wherever approved names are not mentioned, for purchaser's approval during tendering stage else purchaser shall impose as per their requirement and bidder to follow the same in post-order stages.

Ser. No.	Raw Materials		Name of the Make
1.	XLPE Compound	1	Dow Chemicals , U.S.A.
		2	Borealis , Sweden
		3	Hanwha , South Korea
2.	Semi-Conducting Compound	1	Dow Chemicals, U.S.A.
		2	Borealis , Sweden
		3	Hanwha , South Korea
3.	Conductor Water-Blocking tapes / yarn	1	Lantor
		2	Geca
		3	Miracle
		4	Scapa
		5	Sneham International
4.	Water-Swellable Tapes (Pre-slitted)	1	Lantor
		2	Geca
		3	Miracle
		4	Scapa
		5	Sneham International

TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE

Ser. No.	Raw Materials		Name of the Make
5.	Aluminium Rod	1	Bharat Aluminium Co. Ltd. (BALCO)
		2	Hindustan Aluminium Co. Ltd. (HINDALCO)
		3	National Aluminium Co. Ltd. (NALCO)
		4	Vedanta (Sesa Sterlite)
6.	Copper Tape	1	Aggarwal Metal
		2	Indian Smelting
		3	Luvata Swedan
		4	Outokumpu Copper Strip AB, Swedan
7	Galvanised Steel Wires / Strips	1	Tata
		2	Balaji
		3	Systematic
		4	Mica Wires Pvt. Ltd.
		5	Bansal Industries
8	PVC Compound	1	Kalpana
		2	Universal
		3	SCJ Plastic
		4	Sriram Polytech
		5	Shri Ram Vinyl, Kota
9	P. P. Fillers	1	Vijoy Polymers
		2	Yash Polymers
		3	AVSL Industries
10	Core Identification Tape	1	AVSL Industries
		2	Yash Polymer



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TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE

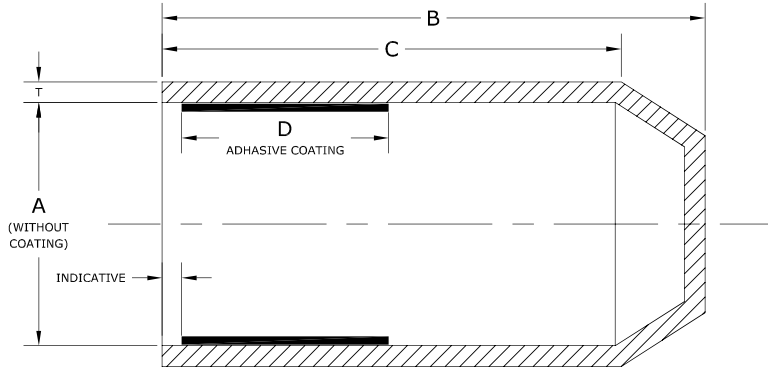
Ser. No.	Raw Materials		Name of the Make
		3	Vijoy Polymers
11	PE Compound	1	Borealis
		3	Shakun
		4	Kalpana

ANNEXURE -D

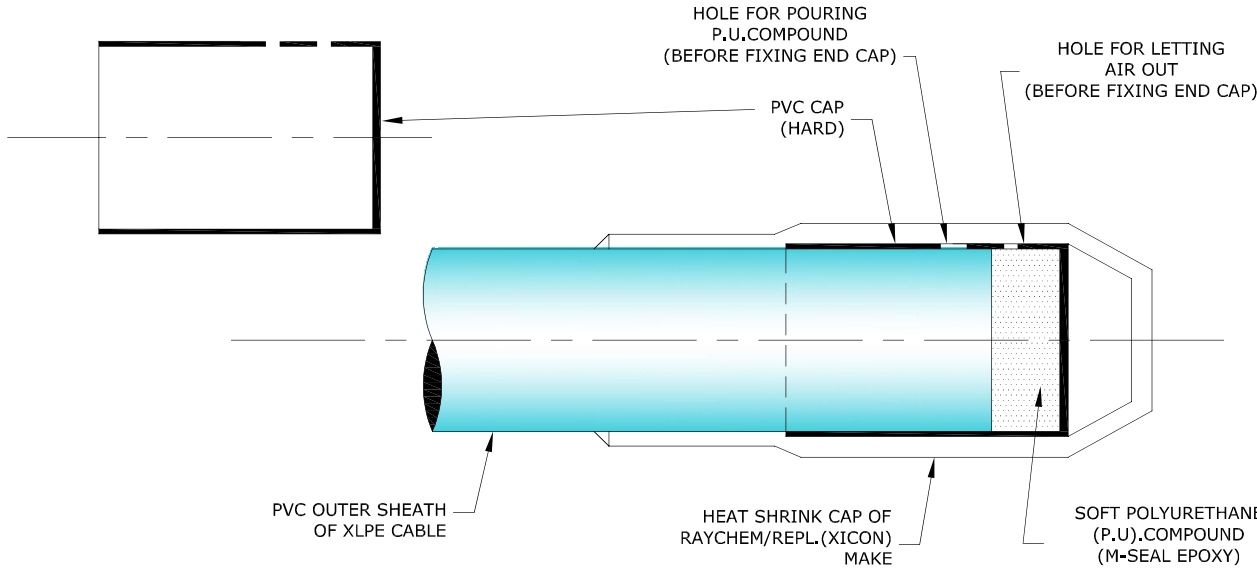
DIMENSIONS

SIZE	A EXP.(Min.)	A REC.(Max.)	B EXP.(Min.)	C EXP.(Min.)	D EXP.(Min.)	LC %	T (WALL REC. ± 20 %)
EC 120/150	75	34	120	105	50	± 10	4.2
EC 240/300	100	62	130	110	70	± 10	3.5
EC 400	145	75	155	120	70	± 10	4.6

EXP - Expanded (as supplied), REC - Recovered freely, LC - Longitudinal Change, T - Wall Thickness, EC - End Cap



END CAP
(AS SUPPLIED)
SECTIONAL VIEW



END CAP
(AFTER HEAT SHRINKING OVER THE CABLE END)

MATERIAL SPECIFICATIONS

Characteristics	Test Class	Value	Test Method
A Physical Properties			
1 Specific Gravity	Type	1.05 ± 0.2	ASTM D-1505
2 Water Absorption	Type	1 % (max)	ASTM D-570 / ISO 62
3 Tensile Strength	Routine	10 N/sqmm (min)	ASTM D-412 / ISO 37
4 Ultimate Elongation	Routine	300% (min)	ASTM D-412 / ISO 37
5 Hardness	Type	45 shore D ± 3	ASTM D-2240
6 Thermal Test			
B Thermal Ageing (120°C for 500 hrs)			
1 Tensile Strength	Type	8 N/sqmm (min)	ASTM D-412 / ISO 37
2 Ultimate Elongation	Type	200% (min)	ASTM D-412 / ISO 37
C Electrical Properties			
1 Volume Resistivity	Type	10 ¹² ohm-cm. (min)	ASTM D-257 / IEC 93
2 Dielectrical Strength	Type	10 kV/mm. (min)	ASTM D-149 / IEC 243
3 Dielectric Constant	Type	5 (max)	ASTM D-150 / IEC 250

- Note : 1) All dimension in mm
2) Colour Black
3) Size as mentioned in the table shall be stencilled on respective item

BSES

DRAWING No. MISC/E/4-1131/1698

SCALE :NOT TO SCALE

DATE: 09-05-2011

END SEALING CAP
(FOR XLPE CABLE)

DRAWN BY:

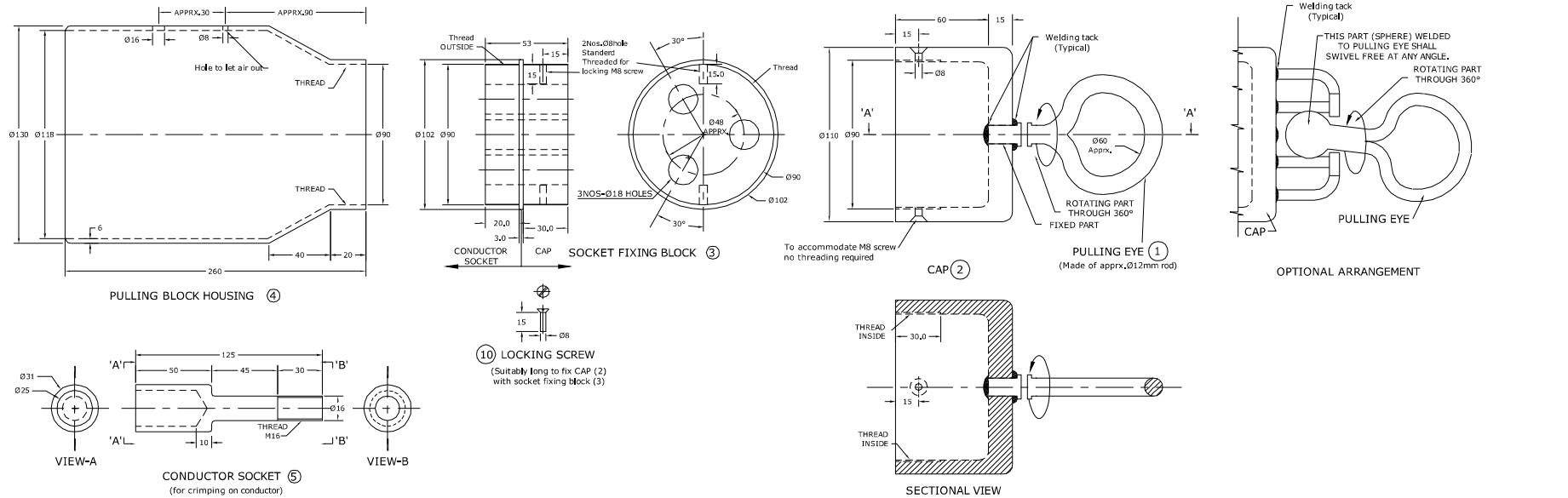
CHECKED BY:

APPROVED BY:

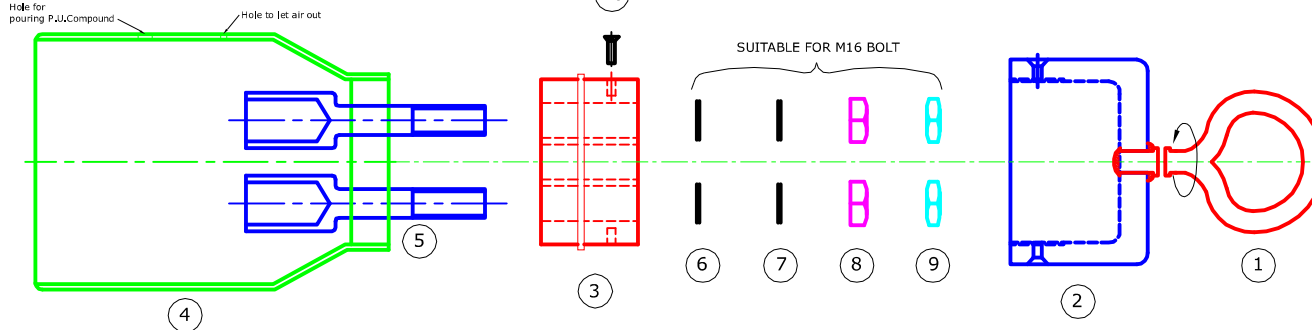
REVISIONS

Addl V.P.

ANNEXURE -E



Exploded View



10	LOCKING SCREW	2	M.S.Zinc-Plated
9	LOCK NUT	3	M.S.Zinc-Plated
8	NUT	3	M.S.Zinc-Plated
7	SPRING. WASHER	3	M.S.Zinc-Plated
6	PLAIN WASHER	3	M.S.Zinc-Plated
5	CONDUCTOR SOCKET	3	AL.
4	PULLING BLOCK HOUSING	1	M.S.Zinc-Plated
3	SOCKET FIXING BLOCK	1	M.S.Zinc-Plated
2	CAP	1	M.S.Zinc-Plated
1	PULLING EYE	1	M.S.Zinc-Plated
NO.	DISCRIPTION	QTY.	MATERIAL

BSES

DRAWING No. MISC/E/4-1133/1699

SCALE :NOT TO SCALE

DATE: 09-05-2011

CABLE PULLING EYE ASSEMBLY (TYPICAL)

DRAWN BY:

CHECKED BY:

APPROVED BY:

REVISIONS

Addl. V.P.

EXAMPLE:

- 1) For cable size 33kV, 3/C X 400sq mm Al XLPE.
- 2) Diameter over conductor : 23.8mm approx.
Overall diameter : 108±3mm approx.
Pulling force applicable on the cable : 30 N/sq mm
Pulling eye shall withstand total force of : 36000N+Safety margin

NOTE:

- 1) All Dimensions are in mm, unless otherwise stated.
- 2) This drawing is typical / indicative. Separate dimensioned drawing for cable pulling eye assembly, suitable for required size & rating of cables, shall be submitted for approval, prior to manufacturing.
- 3) After fixing cable pulling eye, P.U. (Poly-Urethane) Compound shall be poured to occupy inner spaces to avoid ingress of Water / Moisture.
- 4) After P.U. Compound oozes/flows out from the cable side, the same edge shall be sealed with suitable sleeve/Tape.

Final Assembly

CRIMPING

This space shall be filled with P.U. Compound

CABLE

CONDUCTOR

CONDUCTOR

ANNEXURE-F



QUALITY ASSURANCE PLAN (QAP) FOR 66 kV EHV CABLES

S. NO.	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			Remark
									SV	MFR	BSES	
1	2	3	4	5	6	7	8	9	10	11	12	13
Legend : SV : Sub-Vendor of Cable Manufacturer, MFR : Cable Manufacturer, MPS : Material Purchase Specification, P : Perform, W : Witness, V : Verification												
A RAW MATERIAL												
1	Aluminium/Copper Rod	a) Tensile strength	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		b) Resistivity	Major	Electrical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Diameter	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		d) Chemical composition	Major	Chemical	Sample	MPS	MPS	Test certificate	P	V	V	
		e) Surface finish	Major	Visual	Sample			-	P	P	-	
2	PVC Compound	a) Tensile Strength	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		b) Elongation at break	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Thermal stability	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
3	TR-XLPE Compound (Borealis/Dow chemical/ Hanwa)	a) Packing	Minor	Visual	100%	MPS	MPS	-	P	V	-	
		b) Tensile Strength	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Elongation at break	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		d) Hot set test	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		e) Volume Resistivity	Major	Electrical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		f) Cure Curve (Max. Torque)	Major	Physical	Sample	MPS	MPS	Reg./Sheet	-	P	V	
		g) Density	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
4	Semi-conducting Compound (Borealis/Dow chemical/ Hanwa)	a) Packing	Minor	Visual	100%	MPS	MPS	-	P	V	-	
		b) Volume Resistivity	Major	Electrical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Tensile Strength	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		d) Elongation at break	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		e) Cure Curve (Max. Torque)	Major	Physical	Sample	MPS	MPS	Reg./Sheet	-	P	V	
		f) Density	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
5	Copper tape	a) Thickness & width	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		b) Tensile Strength	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Elongation at break	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		d) Resistivity	Major	Electrical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
6.	Armour wires/strips (Galvanised steel)	a) Dimensions	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		b) Surface condition/finish	Major	Visual	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Tensile Strength	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		d) Elongation at break	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		e) Torsion test for round wire	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		f) Wrapping test	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		g) Mass of zinc coating	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		h) Uniformity of zinc coating	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		i) Adhesion test	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		j) Resistivity test	Major	Electrical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
7	Water Swellable	a) Dimensions	Minor	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	



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									SV	MFR	BSES	
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	tape	b) Swelling height	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Resistivity	Major	Electrical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		d) Weight	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
8	Steel Drum	a) Dimension	Major	Meas.	1 sample per size	IS 10418 / Purchase order		-	P	P	-	
		b) Finish & workman ship	Minor	Visual	1 sample per size	Compliance to standard Engineering norms & free from surface defects		-	P	P	-	
9	Binder tape	a) Dimensions & material	Minor	Physical	Sample	MPS	MPS	-	P	P	-	
10	Polypropylene filler	a) Size	Minor	Physical	Sample	Purchase order	Purchase order	-	P	P	-	
11	Heat shrinkable end cap	a) Bore diameter	Major	Physical	1 sample per size	--	--	-	-	P	-	
		b) Length of end cap	Minor	Physical	1 sample per size	--	--	-	-	P	-	
B PROCESS INSPECTION												
1	Wire Drawing	a) Diameter	Major	Physical	Sample			Reg./Sheet	-	P	V	
		b) Surface finish	Major	Visual	100 %	Smooth & free from defects		--	-	P	-	
		c) Tensile test (for Al)	Major	Physical	Sample	IS: 8130/84	IS: 8130/84	Reg./Sheet	-	P	V	
		d) Elongation test (for Cu)	Major	Physical	Sample	IS: 8130/84	IS: 8130/84	Reg./Sheet	-	-	V	
		e) Wrapping test (for Al)	Major	Physical	Sample	IS: 8130/84	IS: 8130/84	Reg./Sheet	-	P	V	
2	Stranding	a) No. of wires/strands	Major	Physical	At the time of m/c setting			Reg./Sheet	-	P	V	
		b) Lay length & Lay direction	Major	Physical	-do-			-	-	P	V	
		c) Dia of conductor	Major	Physical	During setting & once in each shift			Reg./Sheet	-	P	V	
		d) Surface finish	Major	Visual	100 %	No surface defects and free from sharp edges, scratches, grease, oil etc.		-	-	P	-	
3	Core extrusion (Conductor screen, Insulation & insulation screen)	a) Compound Make/Grade	Major	Visual	During m/c setting			-	-	P	-	Insulation screen shall be freely strippable, without application of heat.
		b) Thickness of insulation & extruded S.C. layers	Major	Physical	During m/c setting after stabilisation	Tech. Data Sheet / IS 7098/III	Tech. Data Sheet / IS 7098/III	Reg./Sheet	-	P	V	
		c) Surface finish	Minor	Visual	100 %	Smooth & free from defects		-	-	P	-	
		d) Printing on outer semi- conducting layer	Major	Visual	100 %	"DO NOT HEAT, FREELY STRIPPABLE"		-	-	P	-	
		e) Tensile Strength	Major	Physical	Sample	IS 7098/III	IS 7098/III	Reg./Sheet	-	P	V	
		f) Elongation at break	Major	Physical	Sample	IS 7098/III	IS 7098/III	Reg./Sheet	-	P	V	
		g) Hot set test	Major	Physical	Sample	IS 7098/III	IS 7098/III	Reg./Sheet	-	P	V	
		g1) Ovality of core	Minor	Physical	Sample	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	



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		h) Eccentricity of insulation	Minor	Physical	Sample	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		i) Core diameter	Minor	Physical	Sample	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		j) Void & contamination test for insulation (Silicon Oil test)	Major	Physical	Sample			-	-	P	V	
		k) Wafer boil test for extruded semi-conducting layers	Major	Physical	1 sample/lot	BIS draft Specn	BIS draft Specn	Reg./Sheet	-	P	V	
4	Taping - water Swellable semi-conducting	a) Dimensions	Minor	Physical	Sample	Tech. Data Sheet	Tech. Data Sheet	-	-	P	-	
		b) Tape Application (Overlap)	Minor	Visual	During m/c setting	Suitable overlap	Suitable overlap	-	-	P	-	
5	Taping - Copper tape	a) Width & Thickness of tape	Major	Physical	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		b) Number of tapes	Major	Visual	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		c) Tape application (Overlap)	Minor	Visual	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	-	-	P	-	
6	Laying up	a) Identification of cores	Major	Visual	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	-	-	P	-	Cores shall be laidup with PP fillers & suitable tape binder shall be provided over laid up assembly
		b) Direction of lay, core Sequence & Lay length	Major	Visual	During m/c setting	IS 7098/III, PIL- W-02	IS 7098/III, PIL- W-02	-	-	P	-	
		c) Application of binder tape	Minor	Visual	During m/c setting	Tech. Data Sheet		-	-	P	-	
		d) Shape of laid up assembly	Minor	Visual	100%	Reasonably circular	Reasonably circular	-	-	P	-	
7	Inner sheath	a) Material & type	Major	Visual	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	-	-	P	-	
		b) Thickness	Major	Physical	During m/c setting & drum change	Tech. Data Sheet & IS 7098/III	ech. Data Sheet & IS 7098/III	Reg./Sheet	-	P	V	
		c) Surface finish	Minor	Visual	100 %	Surface shall be smooth & free from defects		-	-	P	-	
		d) Colour of inner sheath	Major	Visual	100 %	Tech. Data Sheet	Tech. Data Sheet	-	-	P	-	
8	Armouring	a) Dimension of armour wires/strips	Major	Physical	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	No negative tol. on strip thickness/wire diameter
		b) No. of armour strip/wire	Major	Counting	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		c) Armour coverage	Minor	Visual	During m/c setting	IS 7098/III	IS 7098/III	-	-	P	-	
		d) Direction of lay	Major	Visual	During m/c setting	IS 7098/III	IS 7098/III	-	-	P	-	
		e) Lay length/Gear setting	Minor	Visual	During m/c setting			-	-	P	-	
		f) Surface finish	Major	Visual	100 %	No cross over/over riding of wire/strip		-	-	P	-	
9	Outer sheath/Rewinding	a) Material & type	Major	Visual	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	-	-	P	-	
		b) Anti rodent & termite additives	Major	Visual	Each loading			Reg./Sheet	-	P	V	



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		b) Thickness	Major	Physical	Each length	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		c) Overall diameter	Major	Physical	Each length	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		d) Surface finish & colour of sheath	Major	Visual	100 %	Surface smooth & free from defects. Colour as per Tech. Data Sheet		-	-	P	-	
		e) Cable length verification	Major	Visual	Each length	Manufacturing Plan	Manufacturing Plan	-	-	P	-	
		f) Marking	Major	Visual	Each length	As per approved GTP/cross sectiona drawing		Reg./Sheet	-	P	V	
C FINAL INSPECTION												
1	Routine tests	a) High Voltage	Critical	Electrical	100 %	IS 7098/III	IS 7098/III	Test Report	-	P	V	
		b) Conductor Resistance	Critical	Electrical	100 %	IS 8130/84	IS 8130/84	Test Report	-	P	V	
		c) Partial Discharge	Critical	Electrical	100 %	IS 7098/III	IS 7098/III	Test Report	-	P	V	
		d) Impulse	Critical	Electrical	One sample per lot			Test Report		P	V	
		e) Armour Coverage	Critical	Physical	One sample per lot			Test Report		P	V	
		f) Physiacal Dimensions	Critical	Physical	One sample per lot			Test Report		P	V	
		g) Freely Strippable insulation screen (Strippability Test)	Major	Physical	One sample per lot	Factory Standard	Factory Standard	Test Report	-	P	V	
2	Stage Inspection	Wire Drawing	Major	Visual	100 %	Tech. Data Sheet	IS/IEC	Test Report	-	P	W	Stage Inspection shall be conducted subject to BSES requirement
		Extrusion process	Major	Visual	100 %	Tech. Data Sheet	IS/IEC	Test Report	-	P	W	
		Raw maerial inspection at factory	Major	Physical	100 %	Tech. Data Sheet	IS/IEC	Test Report	-	P	W	
		Wrapping of Aluminium	Major	Physical	100 %	Tech. Data Sheet	IS/IEC	Test Report	-	P	W	
		Tensile test for Aluminium	Major	Physical	100 %	Tech. Data Sheet	IS/IEC	Test Report	-	P	W	
		a) Annealing test for copper	Major	Physical	Appendix A to IS 7098/III, each lot sample basis	IS 8130/84	IS 8130/84	-	-	P	V	Verification of process records.
		b) Tensile test for aluminium	Major	Physical		IS 8130/84	IS 8130/84	-	-	P	V	
		c) Wrapping test for aluminium	Major	Physical		IS 8130/84	IS 8130/84	-	-	P	V	Tests N/A on finished conductor.
		d) Conductor resistance test	Major	Electrical	Appendix A to IS 7098/III, each lot sample basis	IS 8130/84	IS 8130/84	Test Report	-	P	W	
		e) Test for thickness of insulation & sheath	Major	Physical		IS 7098/III & Tech. Data sheet	IS 7098/III & Tech. Data sheet	Test Report	-	P	W	
		f) Hot set test for insulation	Major	Physical		IS 7098/III	IS 7098/III	Test Report	-	P	W	



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1	2	3	4	5	6	7	8	9	10	11	12	13
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3	Acceptance tests	g) Tensile strength & Elongation at break of insulation & outer sheath	Major	Physical	Each Lot Sample Basis	IS 7098/III & IS 5831/84	IS 7098/III & IS 5831/84	Test Report	-	P	W	
		h) Partial discharge test	Critical	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		i) High voltage test	Critical	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		j) Insulation resistance (Volume resistivity) test	Major	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		k) Tests for dimension of armour wires/strips	Major	Physical		IS 3975, IS 10810 Pt. 36 & Tech. Data sheet		Test Report	-	P	W	
		l) Test for anti termite & anti rodent property of outer sheath	Major	Physical		Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	W	
		m) Rewinding of cable on drum	Major	Visual		To check cable appearance, drum appearance, cable winding, packing, embossing/printing/sequential marking		Reg./Sheet	-	P	W	
		n) Void & contamination test for insulation (Silicon Oil test)	Major	Physical				Reg./Sheet	-	P	W	
		o) Wafer boil test for extruded semi-conducting layers	Major	Physical				Reg./Sheet	-	P	W	
		p) Freely Strippable insulation screen	Major	Physical		Factory Standard	Factory Standard	Test Report	-	P	W	
		q) Water Penetration test (WPT) on core (i.e. Logitudinal Water Blocking Test)	Major	Physical		IEC:60502	IEC:60502	Test Report	-	P	W	Test shall be conducted for leakage of water through conductor.
		r) Armour coverage	Major	Physical		As per data sheet & FS	As per data sheet & FS	Test Report	-	P	W	
		s) Ovality	Major	Physical		As per data sheet	As per data sheet	Test Report	-	P	W	
		t) Eccentricity	Major	Physical		As per data sheet	As per data sheet	Test Report	-	P	W	
		u) Mass & uniformity & zinc coating on armour	Major	Physical		As per data sheet & FS	As per data sheet & FS	Test Report	-	P	W	
		v) Resistivity of Strip armour	Major	Electrical		As per data sheet & FS	As per data sheet & FS	Test Report	-	P	W	
		w) Swelling height of water swellable tape	Major	Physical		As per data sheet & FS	As per data sheet & FS	Test Report	-	P	W	
x) Flammability test	Major	Physical	As per IS-78098/II/2011	As per IS-78098/II/2011	Test Report	-	P	W				
y) Impulse withstand test	Critical	Electrical	IS 7098/III	IS 7098/III	Test Report	-	P	W				



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		z) Ageing & Water absorption test(Gravimetric) on Insulation & Outer sheath	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W		
		z1) Heating Cycle with Potential	Critical	Electrical	sample basis, once per PO			Test Report	-	P	W		
		z2) Raw Material Verification in all aspects	Major	Physical	Each Lot					P	W		
4	Type tests at vendor's works	a) Tests on conductor			One sample per Tender								
		i) Annealing test for copper	Major	Physical		IS 8130/84	IS 8130/84	-	-	P	V	Verification of process records. Tests N/A on finished conductor.	
		ii) Tensile test for aluminium	Major	Physical		IS 8130/84	IS 8130/84	-	-	P	V		
		iii) Wrapping test for aluminium	Major	Physical		IS 8130/84	IS 8130/84	-	-	P	V		
		iv) Conductor resistance test	Major	Electrical		IS 8130/84	IS 8130/84	Test Report	-	P	V		
		b) Tests for armouring wires/strips											
		i) Dimensions of wire/strip	Major	Physical		IS 3975, IS 10810 Pt. 36 & Tech. Data sheet		Test Report	-	P	W		
		ii) Tensile strength & Elongation at break	Major	Physical		IS 3975	IS 3975	Test Report	-	P	W	Only for Steel wires/strips	
		iii) Torsion test for wire	Major	Physical		IS 3975	IS 3975	Test Report	-	P	W		
		iv) Winding test for strip	Major	Physical		IS 3975	IS 3975	Test Report	-	P	W		
		v) Uniformity of zinc coating	Major	Chemical		IS 3975	IS 3975	Test Report	-	P	W		
		vi) Mass of zinc coating	Major	Chemical		IS 3975	IS 3975	Test Report	-	P	W		
		vii) Resistivity of wire/strip	Major	Electrical		IS 3975	IS 3975	Test Report	-	P	W		
		c) Test for thickness of insulation & sheath	Major	Physical		IS 7098/III & Tech. Data sheet		IS 7098/III & Tech. Data sheet	Test Report	-	P	W	
		d) Physical tests for insulation										W	
		i) Tensile strength & Elongation test	Major	Physical		IS 7098/III	IS 7098/III	Test Report	-	P	W		
		ii) Ageing in air oven	Major	Physical		IS 7098/III	IS 7098/III	Test Report	-	P	W		
		iii) Hot set test	Major	Physical		IS 7098/III	IS 7098/III	Test Report	-	P	W		
		iv) Shrinkage test	Major	Physical		IS 7098/III	IS 7098/III	Test Report	-	P	W		
		v) Water absorption (gravimetric)	Major	Physical		IS 7098/III	IS 7098/III	Test Report	-	P	W		
e) Physical tests for outer sheath									W				
i) Tensile strength & Elongation test at break	Major	Physical	IS 5831/84	IS 5831/84	Test Report	-	P	W					
ii) Ageing in air oven	Major	Physical	IS 5831/84	IS 5831/84	Test Report	-	P	W					
iii) Shrinkage test	Major	Physical	IS 5831/84	IS 5831/84	Test Report	-	P	W					



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		iv) Hot deformation test	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W	
		v) Loss of mass in air oven	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W	
		v) Heat shock test	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W	
		vi) Thermal stability test	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W	
		f) Electrical tests in sequence									W	
		i) Partial discharge test	Critical	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		ii) Bending test	Major	Physical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		iii) Partial discharge test	Critical	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		iv) Dielectric power factor as a function of voltage	Major	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		v) Dielectric power factor as a function of temperature	Major	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		vi) Heating cycle test	Major	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		vii) Dielectric power factor as a function of voltage	Major	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		viii) Partial discharge test	Critical	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		ix) Impulse withstand test	Critical	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		x) High voltage test	Critical	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		g) Insulation resistance (Volume resistivity test)	Major	Electrical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
		h) Flammability test	Major	Physical		IS 7098/III	IS 7098/III	Test Report	-	P	W	
D PACKING & MARKING												
1	Packing & Marking	a) Cable end sealing	Major	Visual	100 %	IS 7098/III/ Agreement	IS 7098/III/ Agreement	-	-	P	W/V	BSES representative may verify these characteristics on randomly selected drums.
		b) Pulling eye at leading end- removed from vendor scope, end cap shall be provided at both the end of cable	Major	Visual	100 %	As per agreement	As per agreement	-	-	P	W/V	
		b) Stencilling/Marking on drum	Minor	Visual	100 %	IS 7098(Part 2):2011/ Agreement	IS 7098(Part 2):2011/ Agreement	-	-	P	V	



**QUALITY ASSURANCE PLAN (QAP)
FOR 66 kV EHV CABLES**

S. NO.	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			Remark
									SV	MFR	BSES	
1	2	3	4	5	6	7	8	9	10	11	12	13
Legend : SV : Sub-Vendor of Cable Manufacturer, MFR : Cable Manufacturer, MPS : Material Purchase Specification, P : Perform, W : Witness, V : Verification												

Note	<ol style="list-style-type: none"> 1. Checks specified above for Raw Material, In-Process and Final Inspection shall be as relevant to the specific cable construction. 2. Number of samples shall be selected as per Factory Standard/Agreement wherever 'sample' is indicated for extent of check. 3. Plant standards shall be followed in case Technical Data Sheet does not include requirements for characteristics to be checked. 4. BSES may witness Raw material and in process inspection in addition to Routine/Acceptance tests at any time/stage of manufacturing. 5. BSES's Inspector may randomly select a cable drum for type testing at vendor's works. 6. For each of the offered lot for inspection, BSES may randomly select one cable drum for testing of end cap "Destructive testing" to verify adhesion of sealing cap to cable outer sheath. . 7. All factory Type Tests shall be Witnessed by BSES
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TECHNICAL SPECIFICATION FOR 66KV SINGLE CORE CABLE**Annexure- G****Testing and manufacturing process requirements w. r. t. TR- XLPE insulation**

All cables made with TR-XLPE Insulation should be tested and/or certified to meet the following performance parameters as per ANSI /ICEA S-94-649 after one year AWTT.

Property	Units	Requirements Values
Min. Avg. Electrical Breakdown Strength(qual. test)	kV/mm	≥ 25
Impulse Strength	kV/mm	≥ 83
Water Tree Length	Mm	0.25
Max. Bowtie Tree Density	(Number per 16.4 cu. cm)	Maximum 15 (0.12-0.25 mm range)

Manufacturing processes to produce high-quality cables with the following characteristics:

- Cure consistency with hot set/creep less than 100%
- No voids larger than 75 microns per 16.4 cubic cm
- No ambers larger than 250 microns per 16.4 cubic cm
- No contaminants larger than 125 microns and less than 5 between 50-125 microns per cubic 16.4 cubic cm tested.
- Neutral indent on cable is less than 375 microns
- Cable insulation concentricity greater than 90% tested
- No protrusions greater than 75 microns at the conductor shield and 125 microns at the insulation shield

Annexure-H: Deviation Format

Sl. No.	Document Name	Clause No.	Deviation	Reason	Merit to BSES